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ABSTRACT

The Educational Resources Information Center (ERIC) provides access to the world's English-language literature relevant to educators; generates new information products; and utilizes developmental, research, and program findings in educational planning and operations. The components that comprise the ERIC System are Central ERIC, ERIC Clearinghouses, ERIC Facility, and ERIC Document Reproduction Service (EDRS). The ERIC System makes possible (1) access to the ERIC Data Base for students, faculty, and administrators; access to documents through EDRS and to journals through a reprint service or university library for individuals; (2) access to the ERIC document microfiche collection; (3) technical assistance to users of the ERIC System; (4) written responses, based on literature search and analysis, to user inquiries; and (5) provision of requested information through use of computer retrieval methods. Discussions are provided of ERIC Reference Tools; Microfiche Equipment, Space Requirements, Manual Searching, Machine Searching, ERIC Orientation Materials; and Frequently Used Educational Sources. The four appendixes are: A. Source Journal Index, B. EDRS Ordering Information, C. ERIC Clearinghouses: Scopes and Codes, and D. Manual for Visitors--Steps in Searching "Research in Education" (RIE) and Steps in Searching "Current Index to Journals in Education" (CIJE). (DB)

ED065736

TECHNICAL NOTES
on the
ERIC COLLECTION

SEPTEMBER 1972

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Total Pages – 56

PREFACE

In the last several years, we have grown increasingly aware of the need for a primer that could be used to more effectively plan, establish, and operate an educational information service unit. This publication is intended to serve that purpose. This initial version will not be the last word in designing and operating a center, but we hope that the information contained herein will prove to be a positive force when combined with the already accumulated information, intelligence, and resourcefulness of those engaged in designing and operating such centers. As we learn of ways to increase the utility of this document updated versions will periodically be issued.

This publication is based on the work and experience of two highly proficient and respected educational information centers. The first draft was developed by William McCleary and John Knaub of the Information Retrieval Center of the Northern Colorado Board of Cooperative Educational Services in Boulder, Colorado. They began what has turned out to be a very difficult and complex task. Subsequently, Research and Information Services for Education (R.I.S.E.), in King of Prussia, Pennsylvania, contributed to this effort by broadening its scope thereby making the document more comprehensive. The final version of this manuscript was produced under the direction of the R.I.S.E. Project Director, Richard R. Brickley, assisted by Carolyn Trohoski and June Katucki of the R.I.S.E. staff. Administrative assistance and guidance was provided throughout the project by Patricia DuVal of the National Institute of Education.

This is still considered a working document and is expected to fit the needs of the users. Comments, recommendations, suggestions, and criticisms are welcomed, and will be considered when preparing future editions.

Harvey Marron
National Institute of Education

TABLE OF CONTENTS

Section		*Page*
	Preface	
I	The Eric System	I-1
II	Eric Reference Tools	II-1
III	Microfiche Equipment	III-1
IV	Space Requirements	IV-1
V	Manual Searching	V-1
VI	Machine Searching	VI-1
VII	Eric Orientation Materials	VII-1
VIII	Frequently Used Educational Sources	VIII-1

APPENDIX

A		A-1
B		B-1
C		C-1
D		D-1

LIST OF FIGURES

Figure		*Page*
1	ERIC SYSTEM COMPONENTS	I–2
2	ERIC PROCESSING SYSTEM	I–3
3	TYPES OF SERVICES POSSIBLE USING THE ERIC SYSTEM AS A RESOURCE	I–4
4	THESAURUS ENTRIES	II–1
5	RIE ENTRY	II–2
6	CIJE ENTRY	II–3
7	ERIC MICROFICHE	II–4
8	PRICES OF ERIC AND SPECIAL MICROFICHE COLLECTIONS	II–4
9	ERIC THESAURUS DESCRIPTORS	V–1
10	RIE CUMULATIVE OR MONTHLY CATALOG SUBJECT INDEX ENTRY	V–2
11	RIE MONTHLY CATALOG DOCUMENT RESUMÉ	V–2
12	MANUAL SEARCHING PROCEDURE FOR RIE AND CIJE	V–3
13	DESCRIPTOR POSTINGS	VI–1

SECTION I

THE ERIC SYSTEM

SECTION I
THE ERIC SYSTEM

The Educational Resources Information Center (ERIC) is a national educational information system originally established by the U.S. Office of Education, and now operating under the National Institute of Education (NIE). Its purpose is to provide a means by which educators at the local, regional, state and national level may more effectively utilize the knowledge produced by educational researchers and the developers of successful educational practices and research-based instructional materials. The objectives of the ERIC program are to guarantee ready access to the world's English language literature relevant to educators, to generate new information products by reviewing, summarizing, and interpreting current information on priority topics, and to infuse information about educational developments, research findings and outcomes of exemplary programs into educational planning and operations at all levels.

The ERIC system consists of several components, each of which carries out specific functions relative to the acquisition, analysis, and dissemination of educational information. Figure 1 briefly explains this system.

Figure 2 illustrates the information flow through the subsystems of ERIC and then on to the user via various media. The information flow through the ERIC network illustrates the dependency of the system upon knowledge producers who work in the general educational community. Documents selected for inclusion in RESEARCH IN EDUCATION (RIE) may be solicited by one of the ERIC clearinghouses or submitted directly to the Central ERIC staff in NIE by their authors or sponsoring institutions. Types of documents may include any of the following: annual reports, bibliographies, books, conference processings, instructional programs, manuals, position papers, program descriptions, research reports, reviews, speeches, evaluative instruments and monographs. Contributors may submit documents to ERIC for possible inclusion in the ERIC system by mail. Send to: Central ERIC, National Institute of Education, U.S. Office of Education – Code 600, 400 Maryland Avenue, S.W., Washington, D.C. 20202. Figure 2 illustrates the information flow through the ERIC network.

Types of Services:

In the short history of ERIC, a number of services have been developed using the ERIC data base by a variety of institutions and agencies. These have included all three basic types of dissemination including:

Broadcast Dissemination: wherein the disseminating agency concentrates on making a large general user community aware of the expanding knowledge base and its manifestation in ERIC.

Selective Dissemination: wherein the disseminating, agency selects specific user groups and provides them with periodic bibliographies or resumés related to those topics of common interest to all members of the group.

Responsive Dissemination: wherein the disseminating agency treats each user's request for information as a unique information problem and either provides technical assistance to the user as he utilizes the ERIC system or actually conducts a literature search for the user.

The range of services which can be developed using ERIC as a resource may thus vary consideraoly. As services develop from the simple to the sophisticated, additional related resource requirements increase. Figure 3 suggests some major types of service which could be developed using ERIC as a resource. It should be noted that the institutional setting of the agency providing these services may affect the breadth of service available. Such settings might include the professional library of a local or regional educational agency, a state department of education, a college or university library, or an information center.

FIGURE 1. ERIC SYSTEM COMPONENTS
(Based on system configuration as of July 1, 1972)

Component Name	Function
Central ERIC	Headquarters staff in the National Institute of Education. Responsible for the development, management, and coordination of the ERIC system.
ERIC Clearinghouses	Through a network of 18 specialized centers or clearinghouses, each of which is responsible for a particular educational area and is located at various universities or professional organizations, educational information is monitored, acquired, evaluated, abstracted, indexed, listed and made available.
ERIC Facility	A private contractor provides the centralized computer and related technical services to merge the monthly inputs from the clearinghouses into a single announcement publication, one for documents (RESEARCH IN EDUCATION, published monthly by Government Printing Office (GPO)) and CURRENT INDEX TO JOURNALS IN EDUCATION published monthly by Crowell-Collier-Macmillan Information Corporation). Note: more detailed information on these and other ERIC publications may be found in Section 2 of this document. The facility is also responsible for the continuous development of the THESAURUS, the primary tool in the common indexing of all subject terms used to identify the documents and journal articles listed in ERIC.
ERIC Document Reproduction Service (EDRS)	EDRS microfilms all documents cited in RESEARCH IN EDUCATION and sells the resulting microfiche in both standing monthly orders and by individual document in either microfiche or hardcopy.

FIGURE 2. ERIC PROCESSING SYSTEM

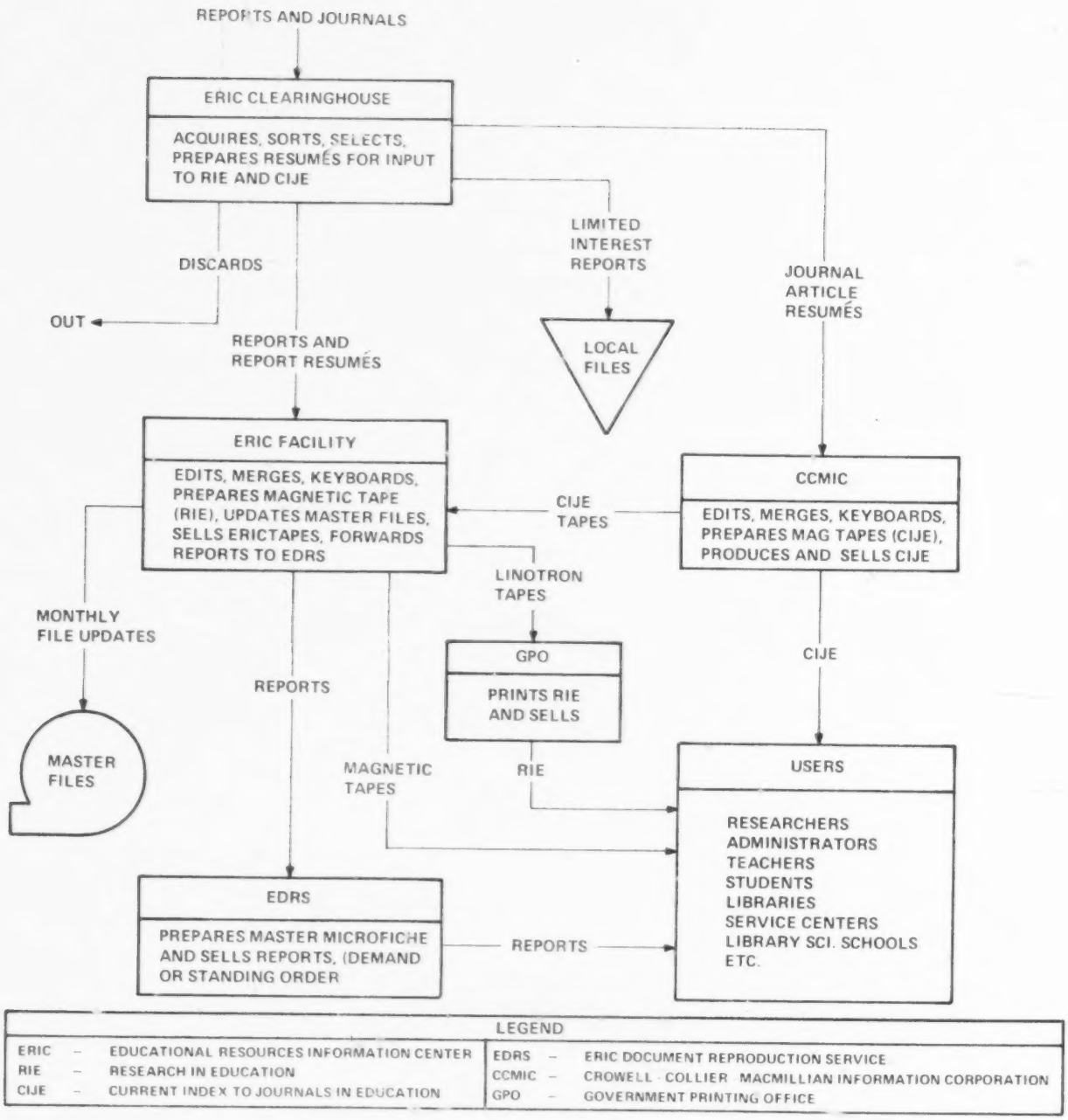


FIGURE 3. TYPES OF SERVICES POSSIBLE USING THE ERIC SYSTEM AS A RESOURCE

Services	Suggested Requirements
1. Provision of access to ERIC Data Base for a user community (students, faculty, administrators); individual users would identify documents and journal articles relevant to their information needs and acquire documents from EDRS in hard copy (or microfiche if they have access to fiche-reading capability) and acquire journals through a reprint service or a nearby college or university library.	Monthly subscription to RIE and CIJE, ERIC THESAURUS, and appropriate cumulative volumes of RIE and CIJE.
2. In addition to the above, provision of direct access to the ERIC document collection in microfiche.	In addition to the above, a standing order subscription to the ERIC microfiche collection from EDRS; microfiche readers and/or microfiche reader/printers.
3. In addition to the above, provision of technical assistance to users in the use of the ERIC system and/or the preparation of topical bibliographies using the resources of the ERIC data base.	In addition to the above, a staff of information retrieval specialists or reference librarians trained in the ERIC system operation.
4. In addition to the above, provision of tailored responses to users based on the negotiation of user inquiries and the subsequent search of the literature, analysis for relevance and writing of reviews of the information retrieved.	In addition to the above, a staff trained in the careful negotiation of a user's information request, judging for relevance, and skill in writing syntheses of the information retrieved; appropriate clerical and administrative support.
5. In addition to the above, provision of rapid retrieval of information in response to complex requests, using conjunctive searching techniques made possible through the power of computers.	In addition to the above, computer software and hardware; technical and management support for the system.

Should an agency maintaining ERIC as a resource be more broadly involved in the planning and implementation of educational change, the provision of information services based on ERIC can provide effective support in avoiding duplication of effort and fostering the utilization of current knowledge for educational improvement. An example of this approach is the Pilot State Dissemination projects in Utah, South Carolina and Oregon where a cadre of educational extension agents provide local school personnel with support services including the delivery of information packages based on ERIC and relevant to the concerns of that local district.

The uses of ERIC as a resource for the educational community are unlimited primarily because the system is dynamic: technological aids to the improvement of ERIC are continually developing; the institutional setting of ERIC subscribers continues to grow and become more diverse; and of course, the information base itself continues to increase in quantity and in range of topic, types of documents, and technical processing.

SECTION II

ERIC REFERENCE TOOLS

SECTION II

ERIC REFERENCE TOOLS

THESAURUS

The **THESAURUS OF ERIC DESCRIPTORS** is Educational Resources Information Center's (ERICs) subject heading or authority list. It serves as the control mechanism at the input and retrieval stage in a controlled vocabulary system. The THESAURUS is an essential tool for using the ERIC system – from the simplest manual search through complex machine aided searching. An alphabetical listing of educational terms, it is used to index documents, projects, and journal articles which are entered into the ERIC system, as well as to assist users in searching RESEARCH IN EDUCATION (RIE) and Current Index to Journals in Education (CIJE). The five sections of the THESAURUS present ERIC terms (descriptors) and or categories (groups) of terms: (1) The descriptor Group Listing is composed of 52 subject categories and each descriptor is assigned to a group. (2) The Descriptor Group Display presents the terms in their respective Descriptor Groups. (3) The Descriptor Listing lists all ERIC descriptors in bold face type and directs the user to an ERIC term if a non-ERIC word is sought. Narrow Terms (NT), Broad Terms (BT), and Related Terms (RT), each have their own listing. (4) The Descriptor Group Scope Notes define topics included in each descriptor group and also cross reference the groups. (5) The Rotated Descriptor Display lists all of the ERIC terms alphabetically as many times as there are words in a term. Also included is a bibliography of dictionaries, thesauri, glossaries, and other references. (Figure 4).

The THESAURUS is revised annually, with new terms listed quarterly in RIE, and may be purchased from Crowell-Collier, MacMillan Information Corporation, 909 Third Avenue, New York, N.Y. 10022, $8.95 cloth cover, $6.95 paperback.

PERIODICALS

RESEARCH IN EDUCATION. RIE is a monthly abstract and index journal announcing recently completed research, descriptions of exemplary programs, speeches and monographs in the field of education. It is indexed by subject, author or investigator, and institution. Semi-annual and annual cumulative indexes are available. Arranged numerically by ERIC Document accession number (ED number), each entry includes full descriptive cataloging, indexing terms, and an abstract. (Figure 5).

Subscription to RIE may be obtained from Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 at a cost of $21.00 per year.

FIGURE 4. THESAURUS ENTRIES

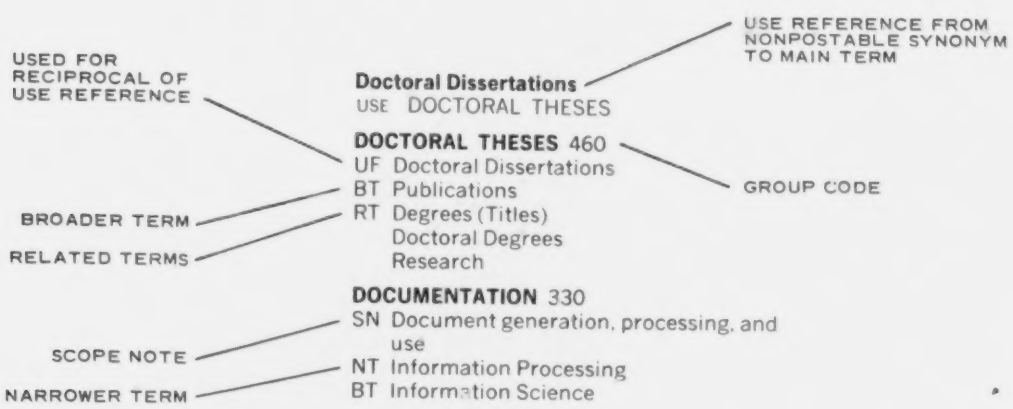
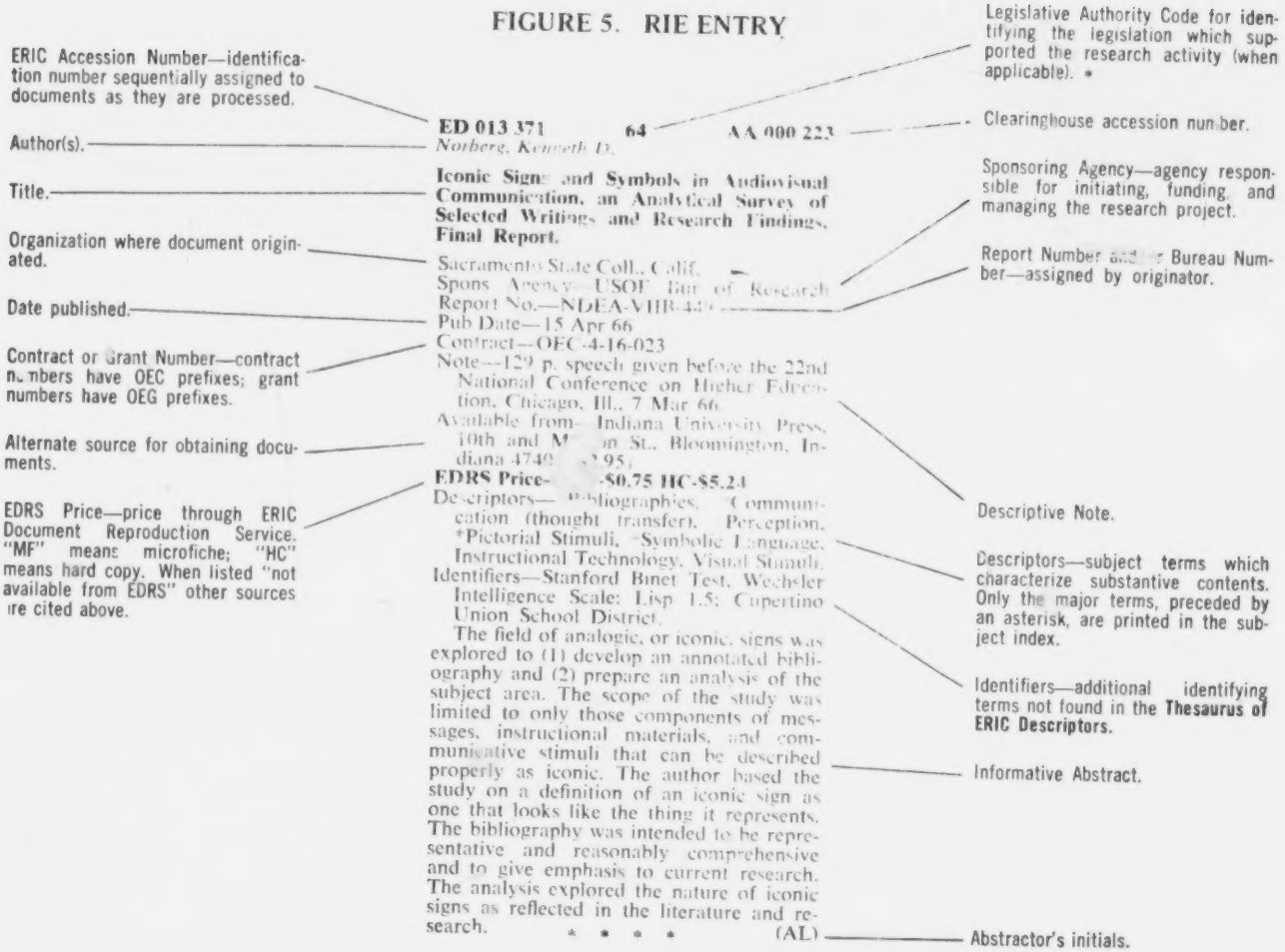


FIGURE 5. RIE ENTRY


ERIC Accession Number—identification number sequentially assigned to documents as they are processed.
Author(s).
Title.
Organization where document originated.
Date published.
Contract or Grant Number—contract numbers have OEC prefixes; grant numbers have OEG prefixes.
Alternate source for obtaining documents.
EDRS Price—price through ERIC Document Reproduction Service. "MF" means microfiche; "HC" means hard copy. When listed "not available from EDRS" other sources are cited above.
ED 013 371 64 AA 000 223
Norberg, Kenneth D.
Iconic Signs and Symbols in Audiovisual Communication, an Analytical Survey of Selected Writings and Research Findings. Final Report.
Sacramento State Coll., Calif.
Spons Agency—USOE Bur of Research
Report No.—NDEA-VIB-43
Pub Date—15 Apr 66
Contract—OEC-4-16-023
Note—129 p. speech given before the 22nd National Conference on Higher Education, Chicago, Ill., 7 Mar 66
Available from—Indiana University Press, 10th and Morton St., Bloomington, Indiana 47401 ($2.95)
EDRS Price—MF-$0.75 HC-$5.24
Descriptors—Bibliographies, Communication (thought transfer), Perception, *Pictorial Stimuli, *Symbolic Language, Instructional Technology, Visual Stimuli,
Identifiers—Stanford Binet Test, Wechsler Intelligence Scale; Lisp 1.5; Cupertino Union School District,
The field of analogic, or iconic, signs was explored to (1) develop an annotated bibliography and (2) prepare an analysis of the subject area. The scope of the study was limited to only those components of messages, instructional materials, and communicative stimuli that can be described properly as iconic. The author based the study on a definition of an iconic sign as one that looks like the thing it represents. The bibliography was intended to be representative and reasonably comprehensive and to give emphasis to current research. The analysis explored the nature of iconic signs as reflected in the literature and research.
* * * *
(AL)
Legislative Authority Code for identifying the legislation which supported the research activity (when applicable).
Clearinghouse accession number.
Sponsoring Agency—agency responsible for initiating, funding, and managing the research project.
Report Number and/or Bureau Number—assigned by originator.
Descriptive Note.
Descriptors—subject terms which characterize substantive contents. Only the major terms, preceded by an asterisk, are printed in the subject index.
Identifiers—additional identifying terms not found in the Thesaurus of ERIC Descriptors.
Informative Abstract.
Abstractor's initials.

Semi-annual and annual indexes are also available generally around July and January (of the following year) for about $4.00 and $7.00 respectively.

CURRENT INDEX TO JOURNALS IN EDUCATION. CIJE is a monthly index to 600 educational periodicals. It is a companion volume to RIE for current information appearing in educational and education-related journals and is indexed using the same indexing terms as RIE. Each issue includes a subject and an author index. Semi-annual and annual cumulative indexes are available. Arranged numerically by ERIC Journal accession number (EJ number), each entry includes the complete bibliographic citation, indexing terms, and a brief annotation when the title is not descriptive. (Figure 6).

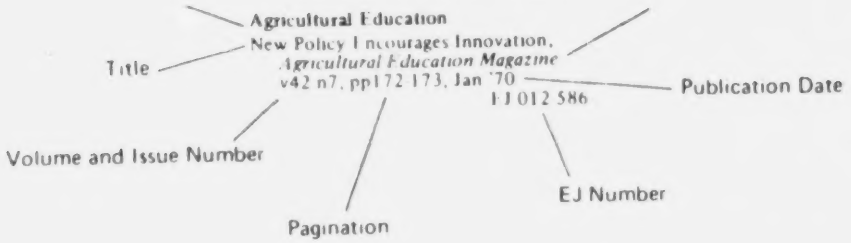
Unlike RIE, the articles indexed are not available from ERIC Document Reproduction Service (EDRS,) but must be retrieved from the journal itself-either from a library or from the publisher.

Therefore, consideration should be given to purchasing a "core" journal collection. Currently there are almost 200 journals that are indexed cover to cover by CIJE, denoted by an asterisk in the Source Journal List (see Appendix A).To subscribe to these journals would cost approximately $2,400 per year.

Subscriptions to CIJE may be obtained from Crowell-Collier-MacMillian Information Corporation, 909 Third Avenue, New York, N.Y. 10022 at a cost of $39.00 per year.

Semi-annual and annual cumulations are available from the same source at $40.00.

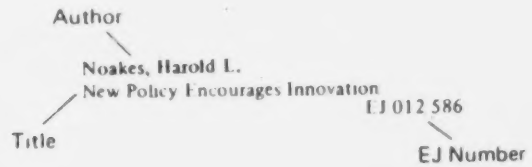
FIGURE 6. CIJE ENTRY



Author Index

Authors' names are given in full when available. If co-authors are responsible for the article, both names are indexed. If more than two authors are given with the article, only the first author is indexed.

EXAMPLE



MICROFICHE COLLECTION

Most ERIC reports announced in RESEARCH IN EDUCATION are available in microfiche form - 4" x 6" acetate sheet, each holding up to 70 pages of standard printed copy. (Figure 7.)

A microfiche reader which enlarges the images is needed to read the fiche and should be made available adjacent to the fiche storage area.

Each fiche costs about 9 cents to the subscriber of monthly standing orders or about $150.00 per month. The complete ERIC collection (Nov. 1966 to June 1972) would cost $7,705.00.

Individual titles can be ordered at a cost of $.65 per title for microfiche, or hard copy at a cost of $3.29 per 100 pages. Microfiche and hard copy are available from ERIC Document Reproduction Service (EDRS), Post Office Drawer 0, Bethesda, Maryland 20014 (see Appendix B for price list).

Documents that are not available through EDRS due to copyright restrictions or poor reproduction quality are so noted in RIE by an asterisk after the ED number. Information as to the source of the complete report is also given. These unavailable documents are also listed in the back of each monthly issue of RIE.

If a limited number of ERIC titles are purchased in either format (microfiche or hard copy) their availability in a local collection should be noted in some manner in RIE for quick retrieval by the researcher. This can be done either by placing a check mark or other symbol next to the title of the document that is on hand or by providing a list of the ED number (of the documents that are available in the collection) in each monthly issue of RIE.

Information on how you can acquire an ERIC collection can be obtained from: EDRS, Leasco Information Products, Inc., P.O. Drawer 0, Bethesda, Maryland 20014. (See Figure 8.)

Two other special document collections in the vocational and technical field are ABSTRACTS OF INSTRUCTIONAL MATERIALS IN VOCATIONAL AND TECHNICAL EDUCATION (AIM) and ABSTRACTS OF RESEARCH AND RELATED MATERIALS IN VOCATIONAL AND TECHNICAL

FIGURE 7. ERIC MICROFICHE

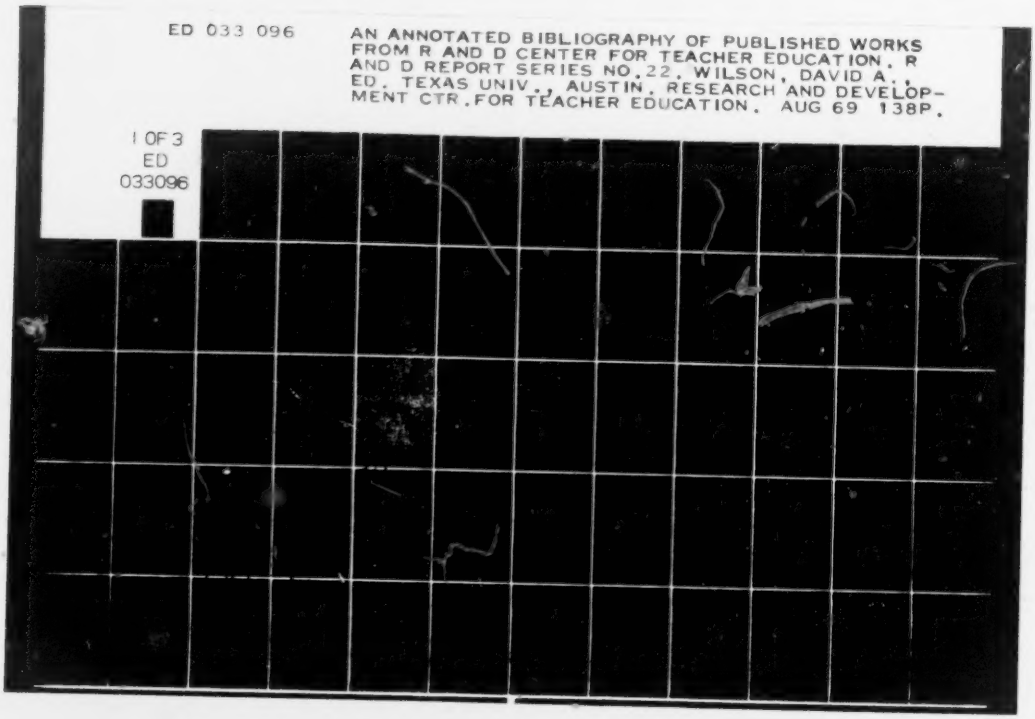

ED 033 096
AN ANNOTATED BIBLIOGRAPHY OF PUBLISHED WORKS FROM R AND D CENTER FOR TEACHER EDUCATION. R AND D REPORT SERIES NO.22. WILSON, DAVID A., ED. TEXAS UNIV., AUSTIN. RESEARCH AND DEVELOPMENT CTR.FOR TEACHER EDUCATION. AUG 69 138P.
1 OF 3
ED
033096

FIGURE 8. PRICES OF ERIC AND SPECIAL MICROFICHE COLLECTIONS

Monthly standing orders for microfiche copies of all ERIC reports announced in each issue of **Research in Education** average $120 per month, at the reduced rate of 8.9 cents per microfiche. Complete microfiche orders for the special collections are also available at cost savings. Prices for these collections are:

Reports in *Research in Education* for 1966 & 1967	$ 394
Reports in *Research in Education* for 1968	1,187
Reports in *Research in Education* for 1969	1,416
Reports in *Research in Education* for 1970	1,441
Entire Collection (1966-1970)	$4,438
Office of Education Research Reports, 1956-65	$ 465
Pacesetters in Innovation, Fiscal Year 1966	166
Pacesetters in Innovation, Fiscal Year 1967	202
Pacesetters in Innovation, Fiscal Year 1968	129
Selected Documents on the Disadvantaged	384
Selected Documents in Higher Education	177
Manpower Research: Inventory for Fiscal Years 1966 & 1967	92
Manpower Research: Inventory for Fiscal Year 1968	51
Manpower Research: Inventory for Fiscal Year 1969	67

Please Note: All prices quoted above include shipment by Book or Library Rate postage. The difference between that rate and First Class or Foreign postage (outside the continental U. S.) will be billed at cost. There is no handling charge for any order.

EDUCATION (ARM). These collections are distributed automatically as part of a standing order subscription or may be purchased as a separate collection. The accompanying indexes, however, must be purchased ($11.00 each per year) separately from the ERIC Clearinghouse on Vocational and Technical Education, Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210.

OTHER ERIC PRODUCTS.

Each of the eighteen ERIC Clearinghouses focuses on a specific field or level of education. (See Appendix C for specific areas of coverage). In addition to the regular clearinghouse bibliographic activities, each clearinghouse also engages in information analysis activities which include the preparation of bibliographies, research reviews, interpretative studies and similar publications designed to organize review and synthesize the literature in the field of education.

The ERIC information analysis pieces (416 were produced during July, 1970 - June, 1971) are listed in an annual publication "ERIC PRODUCTS".

Past editions of "ERIC PRODUCTS" are:

Fiscal Year 1968, listing 149 publications is available as ERIC document ED 029 161.

Fiscal Year 1969, listing 240 publications is available as ERIC document ED 034 089.

Fiscal Year 1970, listing 366 publications is available as ERIC document ED 041 549.

For the latest edition of this publication, see the ERIC PRODUCTS 1970-1971. Mary F. McCord, editor, Clearinghouse on Library and Information Sciences, American Society for Information Science, Washington, D. C. (ED 054 827).

In addition to ERIC PRODUCTS, the following are additional ERIC-based documents of interest:

EDUCATIONAL FINANCE: An ERIC Bibliography. Prepared by Educational Reference Center NCEC. New York, CCM Information Corp. 1972 $5.95.

Includes a listing of documents which are acquired by Clearinghouses in the ERIC network that are related to educational finance issues associated with the elementary and secondary school programs in the United States. Citations and abstracts were also obtained from Selected Documents on the Disadvantaged and Office of Education Research Reports 1956-65. Journal articles about finance which were indexed for CIJE are also included. Arranged numerically by ED number in the document section and by EJ number in the journal section, each entry includes the title, author, date, pagination and abstract. For complete bibliographic information of documents RIE must be consulted. A subject and author index is provided.

EDUCATOR'S COMPLETE ERIC HANDBOOK. Phase One. Compiled by Prentice Hall Editorial Staff, Englewood Cliffs, N.J. Prentice Hall, 1967. $29.95.

Contains information about the most significant research reports on the education of culturally-deprived, or otherwise disadvantaged children selected from 23 programs. Part I presents 23 chapters, each dealing with a description of the community educational specific project and programs. Following are the abstracts of the reports with a complete bibliography. Part 2 presents resumes of programs of a more general nature. A subject and numerical index are included.

RECENT RESEARCH IN READING: a bibliography 1966-1969. New York, CCM Information Corporation. $14.95.

Includes material from abstracts in RIE and citations of articles from journals covered in CIJE (Volume 1, 1969). Contains complete citations, document abstracts, subject index and an author index.

ERIC DESCRIPTORS: Term usage Postings and Statistics prepared from ERIC materials. Bethesda, Maryland, Leasco System and Research Corp. 1971. Annual. $30.

Provides subject access to the entire ERIC collection. Includes postings and statistics for the controlled subject indexing vocabulary which constitutes the thesaurus of ERIC Descriptors. The first section, ERIC Descriptor Usage Report, is an alphabetical array of all ERIC Descriptors together with the ED numbers to which they have been assigned. The second section, Usage Statistical Report, indicates the number of times each Descriptor has been used as a term.

ERIC EDUCATIONAL DOCUMENTS ABSTRACTS, prepared from ERIC resources. New York, CCM Information Corp. 1971. 4v. $126.00 (individual volumes available at $35.00)

A cumulation of the Report Resumés from the monthly issues of RESEARCH IN EDUCATION from January 1968 through December 1971. Abstracts of documents with accession numbers ED 012 349 through ED 054 390 are bound in four volumes, a separate volume for each calendar year.

ERIC EDUCATIONAL DOCUMENTS INDEX, prepared from ERIC resources. New York, CCM Information Corp. 1970. 2v. $34.50

A subject and author index providing titles and accession (ED) numbers for RIE documents from Nov. 1966 through Dec. 1969, as well as document and reports in Office of Education Historical Reports 1956-1965. The subject index is divided into 2 volumes-vol. 1–Major Descriptors and vol. 2–Minor Descriptors and Author index.

Update volume covering 1970-1971 has just been published.

ERIC IDENTIFIERS: Term Usage Postings and Statistics prepared from ERIC materials, Bethesda, Maryland, Leasco Systems & Research Corp. 1971. Annual. $30.00.

Provides subject access to the entire ERIC collection. Includes postings and statistics for specialized indexing terms (such as project names, persons, coined term, etc.) which are not subject to control. The first section, Usage Report, is an alphabetical array of all ERIC Identifiers together with the ED numbers to which they have been assigned. The second section, Usage Statistical Report, indicates the number of times the Identifier has been used as a term.

PACESETTERS IN INNOVATION. U.S. Superintendent of Documents, Washington, D. C. Fiscal year 1966- . Annual. $5.00. (Varies)

Resumes of projects to advance creativity in education approved during the fiscal year. Indexed by subject, local education agency, and project numbers.

MANPOWER RESEARCH: Inventory for Fiscal year. U.S. Superintendent of Documents, Washington, D. C. 1966- . Annual, price varies.

An inventory of current manpower research studies sponsored by various Federal agencies. The resumés are prepared according to the format followed in RIE. Each issue contains indexes arranged by subject, author, institutional sources and report numbers.

CATALOG OF SELECTED DOCUMENTS ON THE DISADVANTAGED. U.S. Superintendent of Documents, Washington, D. C. 1966. $0.65.

A sequential listing of 1,740 selected documents from 23 educational programs for the disadvantaged, with a complete bibliographical citation for each document, and an alphabetical listing of personal authors for each document, together with the document number is also provided.

A separate Subject Index is also available.

SECTION III

MICROFICHE EQUIPMENT

SECTION III

MICROFICHE EQUIPMENT

MICROFICHE EQUIPMENT: GENERAL CONSIDERATIONS

As used in this section, microfiche equipment is defined as any device which is used to locate, enlarge, and display microfiche images or that produces enlarged hardcopy from the images or that is used to store microfiche. Educational Resources Information Center (ERIC) microfiche is currently available in standard Council on Scientific and Technical Information (COSATI) 4" x 6" negative film containing up to 70 images per fiche; the reduction is 20:1. Each fiche is sold in its own paper envelope which protects the fiche from dust and scratching and also provides a white background through which to read the header strip (full size bibliographic citation). Though the number of fiche per ERIC document title varies, the average number of fiche per title is two.

Many factors affect the selection of equipment, both type and model, all of which ultimately depend on determining the true needs of the user, and the resources of the agency which provides service to that user. An excellent handbook to aid in the selection of microfiche equipment is the MICROFORM RETRIEVAL EQUIPMENT GUIDE published in 1970 by the Office of Records Management, National Archives and Records Services, General Services Administration, (available from Superintendent of Documents, U.S. Government Printing Office, price 65 cents, Federal Stock Number 7610-181-7579). Much of the material contained in this section was drawn from that document.

Some overall factors to be considered in the selection of microfiche equipment include the following:

Whether the microform collection will contain one or several different microforms. For example, some microfilm readers/reader-printers which are used to read back-issues of journals on roll-microfilm can be adapted to read microfiche.

Whether the users will require readers only, or reader printers, or a high proportion of one to the other.

Whether the information in the collection will be made available through loans of the microform or by furnishing microform copies, thus indicating a possible need for portable reading equipment which the user may borrow and in the latter case, microfiche reproduction equipment.

Other factors to be considered include:

Price: Prices for microfiche equipment vary greatly by type, by manufacturer, and among models of a given manufacturer. Quantity discounts and government or public school pricing are often available.

Electrical Systems: Most microfiche equipment operates on standard 115 volt, 60 cycle, 20 amp circuits; however, some of the larger units require 30 amp sole use circuits. Standard projection bulbs are used in many microfiche units. Bulb or lamp failure is the most frequent maintenance item in readers and reader printers. It is well to keep a spare on hand. The life of a lamp depends on both the lamp type and the electrical system in the unit. To determine the number of lamps needed per year, estimate the number of hours each reader will be in use during the year and divide by the rated lamp life. It is generally good practice to allow the lamp to cool before moving portable readers. Projection lamps run hot, and a burned out lamp should be allowed to cool before attempting to replace it. Because projection lamps generate both light and heat, the projection system and film plane must be cooled to protect the film. Larger readers usually have a motor-driven blower to do this. The design of smaller units is such that convection cooling is often sufficient. Regardless of the cooling system, no external part of the reader normally touched by the user with the exception of hot air vents should be more than warm to the touch.

Screen: In most microdocument systems it is desirable to have the reader screen present an entire page of information at or near the original size. Half page or partial page images on a screen are generally not acceptable for ERIC microfiche. Screens should also be of an anti-glare nature to facilitate reading under any lighting conditions.

Human Factors Interface: A reader or reader printer should be comfortable to use. The controls should be located where they are easily accessible while the user is in the normal viewing position. The film loading operation should be simple and readily understandable after the first explanation and demonstration. The control of the film movement should be smooth, allowing for rapid movement to specific document areas and for fine adjustments to center pages on the screen. The unit should stay in focus moving from one page to the next. Any large-scale film movement should necessitate no more than a minimal focus adjustment. When indexing systems are part of the unit, they should be simple to comprehend and use. If a portable unit is being considered, durability of the screen is important. In some cases, carrying cases may be available. Human factors are largely subjective. They can be evaluated only by testing the equipment under actual operating conditions.

Optical Systems: Manufacturers specify readers and reader printers by image magnification (24X means the image is magnified 24 times). Most units have fixed magnifications that cannot easily be changed in the field, even though the purchaser may select one from a choice of magnifications at the time of ordering. This presents no problem for equipment used only for ERIC microfiche. However, if the unit will be used also for roll-microfilm or other microforms care should be taken to insure lens versatility. Because some ERIC documents include images which are turned sideways 90^{o} such as charts or diagrams, readers and reader printers should include an image rotation capability so that the fiche transport can be changed to a right-reading orientation.

Maintenance: In general, the quality of the image displayed or the paper copy provided is directly related to the cleanliness of the optical system and the printing mechanism. Microfiche's worst enemy is dust. Dust on reader screens, mirrors, and other optical elements decreases light and illumination levels, sometimes significantly. Dust particles on the film or film holding mechanism damage the film and, when enlarged 20 to 40 times, may look like confetti on the screen and impair readability.

Preventive maintenance will make a considerable difference in the long-term usability of the equipment. Use of a dust cover when the equipment is not in use is recommended. Following the manufacturer's recommendations, cleaning of the screen, lens, internal mirrors, and condenser elements should be done on a routine basis. A spare lamp should be available. Most units provide easy access to the lamp.

Glass flats or optical flats of plastic are often used to hold the film flat in the optical system. They should be easily removed for cleaning or should be easily accessible and cleaned in place. On reader printers, loading of the paper and imaging chemicals and removal or cleaning of the printing mechanism should be easy and convenient.

Major maintenance problems should, of course, be referred to qualified maintenance personnel. Many manufacturers provide warranties and service contracts to cover preventive maintenance and major repairs.

Microfiche equipment and applications pre-date the development of the ERIC system. Manufacturers and suppliers of microfiche equipment and peripheral accessories are quite numerous and some times short-lived. Likewise, the technology of microfiche equipment is constantly changing and new features, types and models of equipment are continually available. Therefore, this document shall not attempt to specify (and, therefore, not endorse) any particular model or manufacturer except in one case where information on alternative equipment was not available by publication date. Most suppliers or manufacturers of microfilm equipment also handle microfiche equipment. These can usually be located in the commercial listings of the local telephone directory under "Microfilming Services, Supplies, and

Equipment". Another excellent source of information regarding microfiche equipment vendors is the BUYER'S GUIDE TO MICROFILM EQUIPMENT, PRODUCTS, AND SERVICES, published annually by the National Microfilm Association and available in single copies free from the National Microfilm Association, Suite 1101, 8728 Colesville Road, Silver Spring, Maryland 20910. For easy reference, the BUYER'S GUIDE categorizes each company by product and by services. Company names and addresses are supplied.

The establishment and operation of an ERIC microfiche collection may include the need for microfiche readers and/or reader printers, storage-display devices, fiche to fiche duplicators, and microfiche storage cabinets.

MICROFICHE READERS AND READER PRINTERS:

Readers and reader printers are available in a number of forms and vary in size, portability and cost accordingly. The basic forms are:

1. Lap Readers: Designed for portability and personal use; they are available at present only as microfiche readers.

2. Portable Readers: These are readers which either fold into a case similar to a portable typewriter case or are compact and portable. They are generally used on an intermittent basis.

3. Desk Readers and Reader Printers: These are usually intended for more continuous use and are placed on a desk, table, or stand.

4. Free-Standing Units: These self-contained readers and reader printers have integral bases and are designed to stand alone.

Many manufacturers offer a list of accessories as well, such as floor stands, combination stands, and other capabilities. The number of operating features, controls, and accessories on any unit is directly related to its cost. As a minimum, nearly every reader has an on-off switch and a control for focusing. And all reader printers have some means for controlling print time (exposure).

Most microfiche readers display the image at approximately original size. An increasing number of microfiche readers have some means of determining or indicating the row and column index coordinates of the image being projected on the screen.

Physical and Operational Characteristics: The microfiche reader is the simplest type of microfilm reader in current use. Accordingly, it is generally less expensive than a comparable roll film reader. Most microfiche readers are intended for desk use. Most of them consist of:

- A screen, either neutral color or tinted blue or green.
- Glass flats and a method to transport the microfiche from frame to frame.
- An optical projection and enlarging system.
- Controls: on-off, focus.
- Index grid or frame locator.
- A housing.

In addition, a reader printer has:

- A paper transport and printing mechanism.
- Additional controls for printing.

The user normally performs the following functions in order to display an image:

Turn switch on.

Open glass flats. (In some readers these open automatically when they are extended to a full forward position. Other units may require the flats to be opened manually.)

Insert microfiche (Readers differ. In some units, the microfiche must be inserted botton edge first and right side up in order to project the image right reading on the screen. Another reader may require the microfiche to be inserted in a different position.)

Move film carrier to desired image as determined by index coordinates or by experiment.

Focus.

To produce a print on most reader printers:

Set printer time to proper exposure.

Actuate print mechanism.

Practically all microfiche units use glass flats in the film carrier to hold the microform flat, protect it, and assist in image positioning. Some glass flats are removable for cleaning; if not, it should be possible to clean them in place easily.

In many units the glass flats are opened manually by raising the top flat to insert the microfiche. In others the flats open automatically, usually when the carrier is moved to the full forward position. Either method is quite convenient, and the choice is one of personal preference.

Motion of the film carrier to position images is provided in several ways:

- Manual: The film stage (in the absence of a carrier, the microfiche itself) is moved by hand in both the X and Y directions.
- Dials: The film carrier is moved by turning dials similar in appearance to the channel selector on a TV set.
- Joystick: The film stage is moved with a joystick or push-pull rotate shaft.
- Pointer: Manual movement of the carrier is accomplished by holding the pointer which indicates location on the grid.
- Automatic: Motion is other than direct manual control, such as pushbuttons for X and Y coordinates on the microfiche.

With respect to film transport and image location, almost any combination of the above capabilities can be quite convenient. Hence the absence of some control of carrier motion and image location is almost totally unacceptable.

Cost Ranges: Microfiche readers range in price from $80.00 for lap units to over $400 for console units. Microfiche reader-printers range in price from $400 for low volume units to over $4,000 for multi-page console units. It should be noted that reader-printers require consummable supplies including either coated or uncoated paper in single sheets or rolls, and developing chemicals which vary according to the process used. Hardcopy reproductions from reader-printers vary in longevity according to process used. If archival concerns are a selection factor, it is important to determine the life expectancy of the reproduction.

STORAGE DISPLAY DEVICES:

A rather unique piece of equipment applicable to an ERIC microfiche collection is the RemKard Automated Microfiche display and storage unit marketed by the Library Bureau of the Sperry Rand Corporation.

The data base consists of the entire RIE and CIJE abstract files in special microfilm format which are loaded on a carousel unit in the machine. Any abstract in the file can be displayed on the RemKard screen in 4 seconds by merely entering the ED or EJ number in the keyboard. Those units equipped with printer units can, by pressing the PRINT button, make an immediate hardcopy enlargement of the abstract shown on the screen. RemKard makes the use of the ERIC file much more attractive and efficient. It makes it possible to browse the ERIC abstract file speedily and easily. Since the abstracts are contained internally in RemKard, they cannot be lost or misplaced.

When used in conjunction with monthly or cumulative indexes for CIJE or RIE, this unit provides nearly instantaneous access to ERIC document resumés and CIJE citations. Thus it provides an effective means of browsing subject entries and related citations eliminating the need to use the hardcopy resumés or citations in the monthly RIE or CIJE. Its price with reader only is $4,750.00; with printing capability, the price is $6,950.00. The data base for the period from the inception of RIE and CIJE through June 30, 1972 costs $850.00. The data base is updated monthly at a cost of $25.00/month.

MICROFICHE DUPLICATION:

If the agency housing the ERIC microfiche collection serves users located at some distance who have microfiche readers or agrees to loan portable readers to users, it may wish to consider the acquisition of a microfiche duplicator (fiche to fiche reproduction). This type of unit allows the agency to reproduce duplicate copies of ERIC microfiche. Two processes are utilized - diazo and visicular (most commonly known by the trade name Kalvar). In the diazo process the ERIC microfiche is placed on a blank un-exposed film of the same size in yellow or subdued light. The films are then exposed to ultraviolet light in a processing unit and the blank is then passed through a developer which consists of a chamber of warm ammonia vapor similar to a blueprint machine. The result is a reproduction of the original fiche of very high quality and readability. The Kalvar process is similar but eiliminates the ammonia steps. Costs for the diazo units range between $1,200 and $3,500. Kalvar units are similarly priced. In addition to supplies of chemicals and the microfiche film (blanks, which incidentally require refrigeration and dark storage for longer life), paper envelopes in which to protect the duplicate fiche are required.

STORAGE CABINETS:

Special storage cabinets or files are needed to store ERIC microfiche. Three types of cabinets are presently available:

Single or Double Drawer Modular Units: These units consist of single or double drawer metal units, each drawer approximately 6" x 4" x 16"; these units are similar to card files used in libraries. The advantage of this type is its modular nature, allowing for purchase as needed; these units are so constructed that they can be stacked one on top of another. Their cost ranges from $6.00 to $30.00 per unit.

Standard File Cabinet Type: These units are similar in structure to standard letter type file cabinets. However, they normally have twice as many drawers as a similar sized filing cabinet. Many of these units contain locks or button-latches to secure the drawer in the closed position, an important factor if security or anticipated moving of the filled units are concerns. The units come in different colors. Costs may range from $160.00 to $400.00. A nine drawer file in which each drawer holds two rows of microfiche measures approximately 52" x 16" x 27".

Lateral Type File Cabinet: These units are similar to the standard file but the rows of microfiche run left to right rather than front to back. One advantage of this type unit is that the space needed in front of the files to open the drawers is less than in a standard unit. A ten drawer file of this type measures approximately 57" x 16" x 30" and costs approximately $500.

It should be noted that both lateral and front to back dividers as well as stop blocks are necessary features in drawers used to store microfiche. It is also helpful to add tab cards of heavy stock as inserts to separate microfiche by ED numbers, thus easing the locating and refiling of fiche. One card should be placed at intervals of 50 document titles (ED numbers).

SECTION IV

SPACE REQUIREMENTS

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SPACE REQUIREMENTS

Space requirements for housing Educational Resources Information Center (ERIC) collection and related materials, supplies, and equipment is dependent on a number of diverse factors. However, agencies or institutions planning the installation of such systems may benefit from the following:

Microfiche Collection: Variable factors in determing drawer space include type of cabinet drawers: tension blocks; use of insert tab cards for ease of filing; and preferred tightness of microfiche in the drawer. For the complete RESEARCH IN EDUCATION (RIE) microfiche collection from November 1966 through June 1972, there were approximately 86,575 individual fiche. On the average, a one inch stack of microfiche in envelopes contain approximately 50 individual microfiche. Therefore, to house the complete collection from November 1966 through June of 1972, an aggregate of 2000 inches of drawer space (6 inches wide) is required. Converted into actual conditions, the complete collection would require 6 nine-drawer cabinets, each drawer 24 inches in depth having two rows of microfiche per drawer. (The extra space is taken up by the tension blocks to keep microfiche in unfilled drawers in an upright position). For future needs, it is estimated that if the ERIC microfiche collection continues to expand at its current rate of an additional 1700 microfiche per month, an additional 480 inches of drawer space will be needed per year. This would mean an increase of approximately 12 additional drawers per year (or 1-1/3 nine drawer cabinets of the dimensions mentioned above). It is recommended that actual cabinet specifications be checked to determine capacity of fiche before selection is made.

RESEARCH IN EDUCATION and CURRENT INDEX TO JOURNALS IN EDUCATION Monthly and Cumulative Volumes and Related HardCopy Materials:

As of June 1972, all the monthly cumulative and related ERIC system documents such as the THESAURUS, etc., could be stored in a single three foot wide rack of shelving containing five shelves 11" high and 11" deep. Some centers have found it useful to separate the resumé sections of the monthly RIE volumes and bind them separately by year. Of course, this should only be done after the annual cumulative volume of indexes (which contains no resumes) has been acquired.

Floor Space Requirement: In terms of actual floor space, a moderate installation of the ERIC microfiche collection including two reader printers, two portable readers, microfiche storage cabinets, shelving and work tables and chairs would require approximately 1000 square feet. However, existing equipment and furniture, overall layout, and other factors may significantly alter the necessary floor space needed for an ERIC installation.

SECTION V

MANUAL SEARCHING

SECTION V

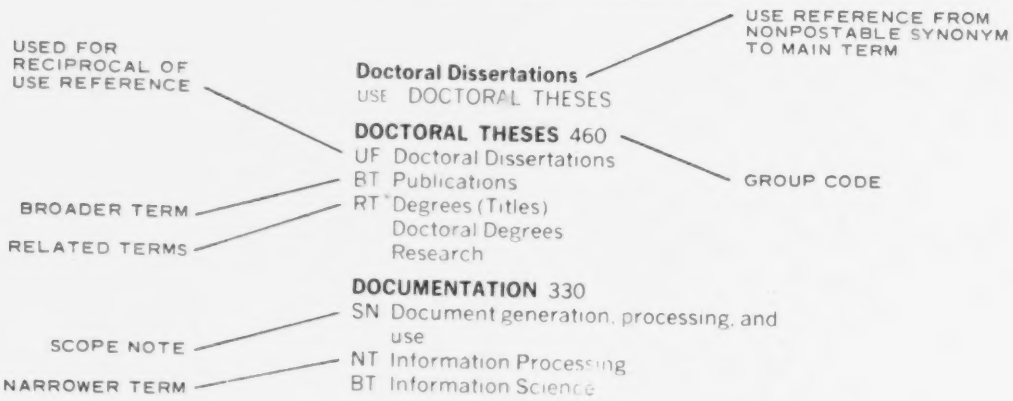
MANUAL SEARCHING

MANUAL SEARCHING:

The primary Educational Resources Information Center (ERIC) user, according to Bernard M. Fry, in his EVALUATION STUDY OF ERIC PRODUCTS AND SERVICES, (Washington, D.C.: DHEW, U.S. Office of Education, National Center for Educational Communication, March, 1972), is a teacher-graduate student or under-graduate student at an institution of higher education. It can be assumed that most of these users will be conducting manual searches since the availability of inexpensive computer searching is not prevalent at these institutions, nor accessible to a great extent from information centers.

A manual search begins with the user first formulating a question and defining some key terms relating to it. The user then turns to the ERIC THESAURUS (see page II-1) and matches his terms with the some 8,000 descriptors compiled there. The user will be lead to several descriptor terms from the main descriptor he chose as he browses the Narrow Terms (NT), Broad Terms (BT), and Related Terms (RT). These terms are displayed in Figure 9 along with UF which means used for.

FIGURE 9. ERIC THESAURUS DESCRIPTORS



He may use any or all of these terms depending on the amount of information he needs. When he is satisfied that he has enough terms to proceed, the user can locate citations for documents in the yearly RESEARCH IN EDUCATION (RIE) or CURRENT INDEX TO JOURNALS IN EDUCATION (CIJE) cumulative or monthly catalogs in the subject section. These citations will be coded with an ED or EJ prefixed number. This number can be located in the appropriate monthly catalog or on a Remkard system (see page III-5) and will produce a 200 word abstract in the case of (RIE) or a complete, annotated citation in Current Index to Journals in Education (CIJE).

Examples from the cumulative and monthly catalog entries are shown in Figures 10 and 11.

If, in reading the abstract or annotation, the user decides to read the entire document, he may retrieve the microfiche and with the aid of appropriate equipment (see Section on Microfiche Equipment), read it. When searching CIJE, the user will be led to a specific journal which may be housed in another section of the library or information center. A flow chart illustrating the steps of a manual search has been included as Figure 12.

The user may wish to search for a particular author or institution rather than or in conjunction with subject or descriptor terms. The monthly catalogs of both RIE and CIJE are divided into subject, author, and institution sections. The institution index is not available in the yearly cumulatives. The specialized ERIC collections may be searched following the same procedures; however, the collection index will be substituted for the yearly cumulative index.

Because people are becoming aware of ERIC daily, materials are needed to acquaint users with the system in a relatively short period of time. A Manual for Visitors for both RIE and CIJE has been developed and is included in Appendix D. This document programs the user in the steps of manual searching and provides a logical task outline. The pamphlet "How to Use ERIC" will be a useful aid for new ERIC users. (Available from Superintendent of Documents, Catalog No. HE 5.212: 12037-C. U.S. Government Printing Office, Washington, D.C. 20402. Price 35¢.)

FIGURE 10. RIE CUMULATIVE OR MONTHLY CATALOG SUBJECT INDEX ENTRY

Information Dissemination

Field Agents Role in Education. Part 1. USOE Pilot State Dissemination Program.
ED 056 254

Improving School Community Relations.
ED 056 365

Problems in Information Retrieval--Materials from the USOE Pilot State Dissemination Program.
ED 056 245

Program Retrieval/Dissemination: A Solid State Random Access System.
ED 056 476

Project Intrex; A Brief Description.
ED 056 732

Toward a Model for Information Dissemination in Educational Technology Responsive to User Needs.
ED 056 513

FIGURE 11. RIE MONTHLY CATALOG DOCUMENT RESUMÉ

ED 056 732 LI 003 277

Overhage, Carl F. J.

Project Intrex; A Brief Description.

Massachusetts Inst. of Tech., Cambridge.

Spons Agency—Carnegie Corp. of New York, N.Y.; Council on Library Resources, Inc., Washington, D.C.; National Science Foundation, Washington, D.C.

Pub Date 71

Note—27p.(16 References)

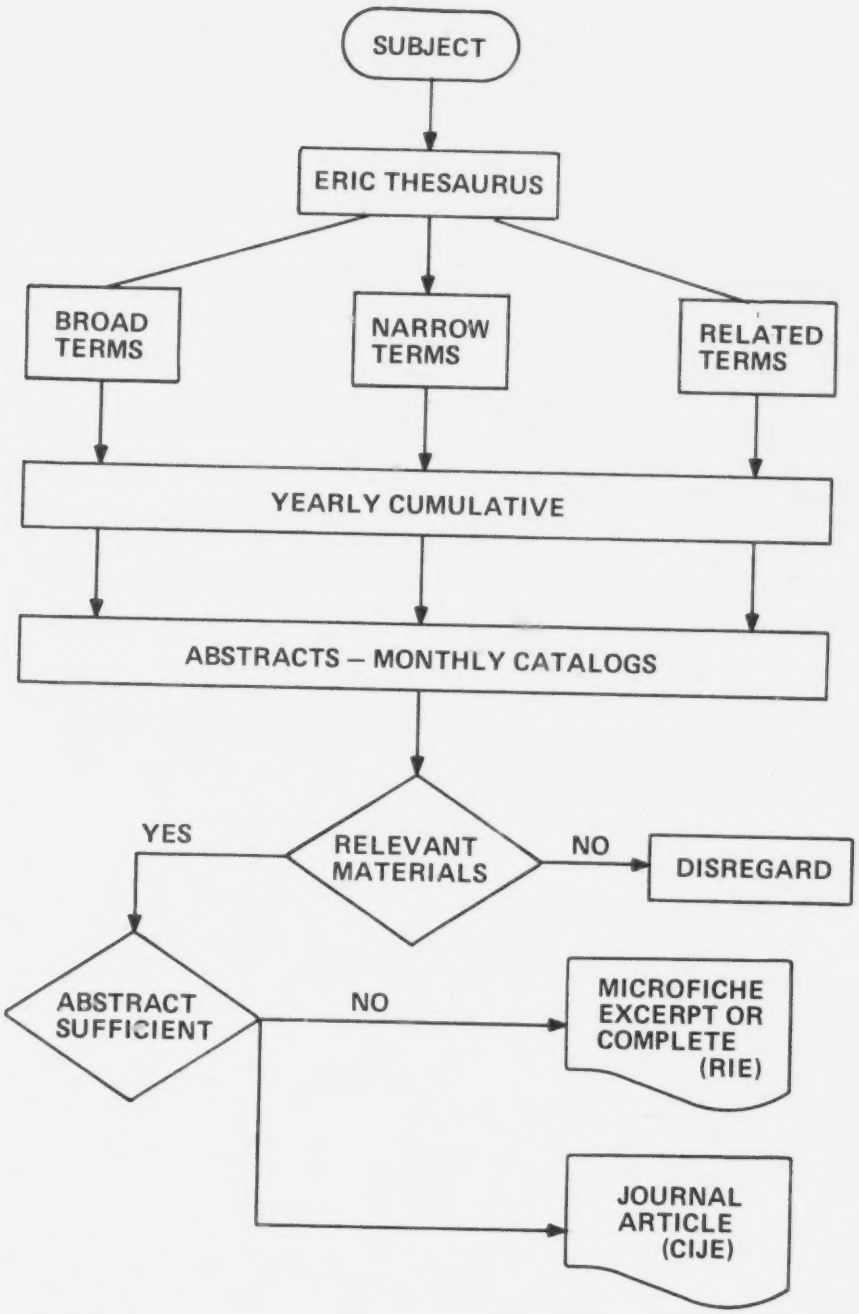
EDRS Price MF-$0.65 HC-$3.29

Descriptors—*Information Dissemination, *Information Retrieval, *Information Seeking, *Information Utilization, *Libraries, Library Planning, Library Services

Identifiers—Information Transfer, *Project Intrex

Project Intrex is a program of information transfer experiments directed toward new services and facilities for people who seek information in large libraries. The Project Intrex program includes: (1) the assembly and organization of an information store of sufficient size; (2) the development of the essential facilities for storing, retrieving, transmitting and displaying the information; (3) the study of the operations and reactions of users under varying conditions and (4) the design of user aids for a library providing both machine access and conventional services. (Author/MM)

FIGURE 12. MANUAL SEARCHING PROCEDURE FOR RIE AND CIJE



SECTION VI

MACHINE SEARCHING

SECTION VI

MACHINE SEARCHING

MACHINE SEARCHING OF ERIC:

Concurrent with the increased use of the Educational Resources Information Center (ERIC) system has been the development of faster and more efficient retrieval methods through machine searching. While the information centers and educational agencies felt this need primarily, the student, too, has found machine searching of benefit. This is particularly significant where complex conjunctive searches containing combinations of several terms are being investigated.

Facilities housing ERIC collections, such as libraries, state and regional education agencies and information centers, considering the adoption of a machine searching capability should be aware of the elements required for the installation of such a system. These include data base, data base formats and software packages presently available for machine searching of the ERIC collection.

The data base currently available to ERIC users is a machine readable magnetic tape. Under a special authorization by the Office of Education, LEASCO Systems and Research Corporation offers for sale, the magnetic tape copies of the RESEARCH IN EDUCATION (RIE) and CURRENT INDEX TO JOURNALS IN EDUCATION (CIJE) files. These files are identical to the hard copy indexes and catalogs. The report (RIE) literature is covered from 1966; and the journal literature from 1969.

The LEASCO tapes are available on 9 track tapes (1600 or 800 BPI), in the form of IBM S/360 Operating System variable length records. The requirements for the tape reels are documented in an ERICTAPE brochure available from LEASCO. Additional information may be obtained by writing directly to this facility:

LEASCO Systems and Research Corporation
4833 Rugby Avenue, Bethesda, Maryland 20014
Attention: ERICTAPE

The LEASCO magnetic tapes are compiled in a sequential data base format. For example, the order of the records on the file are in sequential order by ERIC document number (i.e. ED 037 680) in the same form as their appearance in the monthly catalogs of RIE and CIJE.

A second format available from LEASCO is the inverted tape or file structure. In this case, the records on the file consist of only the thesaurual descriptors and accession numbers; these are arranged alphabetically. An example of this format is illustrated in Figure 13.

FIGURE 13. DESCRIPTOR POSTINGS

ERIC DESCRIPTOR USAGE REPORT

DESCRIPTOR	
Academic Probation	ED010734 ED010954 ED011201 ED013601 ED014 ED016446 ED019944 ED022199 ED023102 ED023 ED029311 ED029634 ED034226 ED035391 ED036
Academic Rank (Professional)	ED011125 ED011402 ED013612 ED015747 ED0159 ED019947 ED020719 ED020766 ED028725 ED030
Academic Records	ED011792 ED012504 ED013790 ED014464 ED015
Academic Standards	ED001280 ED002127 ED011193 ED011201 ED011 ED014446 ED014656 ED015844 ED016183 ED0164 ED019741 ED020262 ED020709 ED021443 ED0219 ED024854 ED025999 ED026614 ED027264 ED0277 ED029525 ED030205 ED030640 ED031175 ED0313 ED032845 ED034483 ED036275 ED036703 EP010

Several state agencies and information centers have developed programs to create inverted format magnetic tapes from the sequential format tapes. Information on these modified systems is available from the Educational Resources Information Center of National Institute of Education (NIE).

The systems available for searching the data base are the batch retrieval system and the on-line or interactive retrieval system. The batch mode requires that the complete search strategy be decided before the computer run is made. An example of a batch system using sequential format is QUERY, a proprietary search system, developed by Computer Resource Corporation, which enables the user to search the ERIC magnetic tape file. The number of searches against the ERIC file which may be batched together varies according to the core memory available. Each search can be treated independently and an input record is copied to the output tape once for each set of search criteria which it satisfies.

The IBM 360 model of QUERY is available for IBM 360 models 30 and up, with a minimum of 32K core with two tape drives, a card reader, and printer. QUERY is written in IBM Assembly language which is compatible with the form on RCA Spectra 70; thus by modifying the input instruction, QUERY will perform on the RCA Spectra 70. Modification must be borne by the requesting installation. At this time there is only limited technical assistance available from NIE for installation of the QUERY program.

Other batch systems have been developed which use the inverted tape format for the searching process. Limited information concerning these programs can be obtained from ERIC, National Institute of Education, Washington, D. C. 20202.

The on line or interactive retrieval system allows the user constant interaction with the computer for modification of the search strategy as needed. One of the retrieval systems of this type available to ERIC users is the DIALOG system developed by Lockheed. The current version of DIALOG has evolved from the operational experience of several data bases. In the current application, DIALOG is applied to the total ERIC data base;RIE, CIJE, Current Project Information, Pacesetters in Innovation, Field Reader Catalog, and Exceptional Child Educational Abstracts. Inquiries regarding this system should be forward to ERIC, National Institute of Education, Washington, D. C. 20202.

SECTION VII

ERIC ORIENTATION MATERIALS

SECTION VII

ERIC ORIENTATION MATERIALS

Most Educational Resources Information Center (ERIC) users have learned to use the system by trial and error efforts or by using procedures similar to extracting information from other popular education indexes. A need exists for an orientation to the ERIC system and a procedural outline for retrieving its materials.

Presentations should be available from sites of complete ERIC microfiche collections such as libraries, information centers, and state and regional education agencies. In institutions of higher education, an orientation to ERIC may be given to students in an educational research course, in an English class geared to the resources of the library, or a reference course for librarians. An information center can provide an ERIC in-service for teachers and frequently provides orientation to its users. The regional and state agency is often called upon to explain the ERIC service at regional or state meetings of educators. These agencies may often use the educational extension agent or educational information consultant to spread the ERIC word. These linking agents may go beyond just an orientation stage and actually give a hands on demonstration by searching along with the user. The school librarian who has familiarity with the system may also act in this capacity. Several individual schools have standing orders of the monthly catalogs of RESEARCH IN EDUCATION (RIE) for use by teachers and administrators.

There are several examples of presently available presentational material for use by persons responsible for instructing potential ERIC users. The ERIC Clearinghouse on Teacher Education, 1 Dupont Circle, Washington, D. C., has produced fifty information sheets on ERIC. They are adaptable for reproduction as overhead projection transparencies. The material has been divided into seven subject subsets and has been color coded for depth of treatment. One may obtain these sheets directly from the Clearinghouse as long as the supply lasts or from the ERIC system in document ED 043 580 (the latter will not be color coded).

A three-part slide series has been designed by the Center for Research and Development in State Education Leadership in Oregon. The material is also available in filmstrip format. This series with accompanying script can be ordered directly from the center or from the Information Branch of the National Audio Visual Center, Washington, D. C. 20409, for $5.00.

Other training aids have been developed on both a commercial and non-commercial basis. For further information on these products contact the Educational Reference Center of the National Institute of Education.

SECTION VIII

FREQUENTLY USED EDUCATIONAL SOURCES

SECTION VIII

FREQUENTLY USED EDUCATIONAL SOURCES

Research and Information Services for Education (RISE), 198 Allendale Road, King of Prussia, Pa. 19406 an educational information center serving the needs of educators throughout the State of Pennsylvania, has prepared a listing of reference works in the field of education. It is not meant to be an exhaustive listing but rather a representative selection which RISE has found to be of value in their information center.

REFERENCE

DIRECTORY OF ORGANIZATIONS AND PERSONNEL IN EDUCATIONAL MANAGEMENT by Philip K. Piele and Stuart C. Smith. Eugene, Oregon, University of Oregon, ERIC Clearinghouse on Educational Management. Third edition 1971-72. $3.00.

The directory includes 154 organizations and 416 individual researchers. Extensive subject indexes are provided for both sections. Through this resource, users are guided to organizations having specialized publications or information on educational management and facilities.

ENCYCLOPEDIA OF EDUCATIONAL RESEARCH; a project of the American Educational Research Association, ed. by Chester W. Harris with the assistance of Marie R. Liba. 4th ed. N.Y., Macmillan, 1960. 1564 p. $27.50.

Gives the status of research in all phases of education and includes articles on method of research and the characteristics of particular groups i.e. the gifted and the retarded.

GUIDE TO PERIODICALS IN EDUCATION by William L. Camp. Scarecrow Press, 1968. $9.00.

A summary of current periodical information and details of publication of over 400 educational periodicals issued in the U.S. Publications are arranged alphabetically under broad subject headings and are indexed by subject and title. Each entry contains complete bibliographic information, subscription data and also a statement of editorial policy.

GRANT DATA QUARTERLY. Academic Media Inc. Los Angeles, California. Vol. 1. 1967 Quarterly. $35.00.

A comprehensive up-to-date picture of grant support available from government, business and professional organizations and foundations. A subject and an organizational index is included in each issue.

HANDBOOK OF RESEARCH ON TEACHING; a project of the American Educational Research Association. Chicago, Rand McNally. 1963. $15.00.

Summarizes and critically analyzes research in the field. Lengthy articles on method, variables, areas, grade levels, and subject fields. Arranged in 23 chapters with extensive bibliographies. Includes a name and subject index.

INTRODUCTION TO GENERAL PSYCHOLOGY. Dubuque, Iowa. William C. Brown Company: a self-selection textbook. 1966-

This flexible textbook permits a selection of topics according to the content of a particular course and the demands of its students. Psychology is presented as an experimental science as well as a practical technology with the burden of responsibility placed upon the instructor.

LEARNING DIRECTORY. Westinghouse Learning Corp., New York. 1970. 7 v. $90.00.

A comprehensive guide to instructional materials in all media. "Yellow Pages" for over 200,000 distinct items. Arranged alphabetically by topic. Each entry includes information on level, medium, title, price, and source. Key to using Learning Directory included in each volume.

READING: TESTS AND REVIEWS, edited by Oscar Krisen Buros. Highland Park, N.J., Gryphon, 1968. $15.00.

A presentation of material in the reading sections of the first six Mental Measurements as well as a comprehensive bibliography of all current reading tests. Includes a classified index of all tests and reviews found in the Mental Measurements Yearbook.

THE SIXTH MENTAL MEASUREMENTS YEARBOOK, ed. By Oscar K. Buros. Highland Park, N.J., Gryphon, 1938- 6th edition, 1965, $35.00.

Lists all educational, psychological and vocational tests that are commercially available as well as a classified list of books on testing. Critical evaluation of thousands of tests received by specialists in the field involved.

STANDARD EDUCATION ALMANAC by Alvin Renetzky and Jon S. Greene. Los Angeles, California, Academic Media, 1970. (Annual) $12.95.

Source of educational facts and statistics, provides information on most aspects of education from kindergarten through graduate school.

TESTS IN PRINT; a comprehensive bibliography of tests for use in education, psychology, and industry. Highland Park, N.J., Gryphon, [1961] 479 p. $10.00.

Tests in print and out of print are included. Serves as an index and supplement to the series Mental Measurements Yearbook.

THE TIMES EDUCATIONAL SUPPLEMENT. Times Newspapers Ltd., London, England. Weekly. $8.00 a year.

This newspaper deals primarily with various aspects of English education. Book reviews, foreign news, and an extensive classified ad index are included.

INDEXES AND ABSTRACTS

CHILD DEVELOPMENT ABSTRACTS AND BIBLIOGRAPHY. Lafayette, Ind., Purdue Univ., Soc. for Research in Child Development. v.1 - June 1927 - 3 times a year. $10.00 a year.

Contains abstracts of articles from some 125 American and foreign periodicals and book reviews. Arrangement is by subject. Author and subject index cumulates annually.

CRIME AND DELINQUENCY ABSTRACTS. Chevy Chase, Maryland: National Clearinghouse for Mental Health Information of the National Institute of Mental Health. Bi-monthly.

Contains abstracts of current published scientific and professional literature and of current ongoing research projects.

DISSERTATION ABSTRACTS; abstracts of dissertations and monographs in microform. Ann Arbor, Mich., Univ. Microfilms, 1952 - . v. 12 - . Monthly $100.00.

A compilation of abstracts of doctoral dissertations submitted to University Microfilms, Inc. by a varying number of cooperating universities. Each issue includes a subject index and an author index. Author and subject indexes cumulate annually.

EDUCATIONAL ADMINISTRATION ABSTRACTS. Columbus, Ohio; University Council for Educational Administration, 1970 - . Quarterly. $12.50.

This abstracting source reviews over a hundred journals for articles dealing with educational administration.

EDUCATION INDEX, Jan. 1929 - ; a cumulative subject index to a selected list of educational periodicals, proceedings and yearbooks. N.Y., Wilson, 1932 - Monthly (except July and August) cumulating throughout the year with annual and biennial cumulations. Sold on service basis.

Indexes more than 200 periodicals covering all phases of education. Arranged alphabetically by author and subject.

EXCERPTA MEDICA; the international medical abstracting service. Amsterdam, Excerpta Medica, 1947 - . Monthly. $50 to $60.

An important abstracting service listing articles from medical journals in all countries. Article titles are given in English translation and sometimes in the original language. Monthly issues are published for each section, with annual author and subject indexes.

INDEX MEDICUS. Washington, D.C.: National Library of Medicine, 1960 - Monthly.

A bibliographical listing of references to current articles from some 2,500 biomedical journals, is produced by mechanized means (MEDLARS); is cumulated annually into Cumulated Index Medicus; indexed completely or selectively by subject and name. $65.00.

MENTAL HEALTH BOOK REVIEW INDEX. New York, N.Y. New York University. 1956 - Annual.

The index lists references to signed book reviews appearing in three or more of some two hundred journals. Number of journals varies, and topics covered include psychology, psychiatry, and psychoanalysis.

MENTAL RETARDATION ABSTRACTS: a publication of the Division of Mental Retardation, Rehabilitation Services Administration. Washington, D.C. Quarterly. $3.00.

Each issue includes over 600 Abstracts of articles on the behavioral and medical aspects of mental retardation. Intended to meet the need for comprehensive information about new development and research results. A subject and author index is included with each issue.

PERCEPTUAL COGNITIVE DEVELOPMENT published by the Galton Institute, Beverly Hills, California. 1965 - . Bimonthly. $30.00 a year. Annual Cumulative issue, 1970 - .

An annotated bibliography covering the study and dissemination of information about perceptual, cognitive, and creative processes. Each issue includes a Bibliography, a Keywork-In-Context Index, an Author List, a Source List, and Book Notices.

PSYCHOLOGICAL ABSTRACTS, 1927 - . Lancaster, Pa. American Psychological Assoc., 1927 - . v. 1- $30.00.

An important monthly bibliography listing new books and articles grouped by subjects, with a signed abstract of each item. Author index to each number, and full author and subject indexes for each volume.

READERS' GUIDE TO PERIODICAL LITERATURE. New York. The H. W. Wilson Co., 1900- Semi-monthly from September to June, monthly during July and August; two-year cumulations. $35.00.

Indexes more than 100 periodicals of a general nature; follows closely the publication date of the periodicals with semimonthly issues; gives author and title of article, name, volume, and date of periodical, number of pages; illustrations, bibliography, maps.

RESEARCH RELATING TO CHILDREN. Bulletin published by J.S. Children's Bureau. Clearinghouse for Research in Child Life. Dec. 1948/June 1949. Washington, Government Printing Office, 1950 - . Annual Irregular.

Contains abstracts of studies arranged by broad subjects, and indexes of organizations, investigators, and subjects.

REFERRAL AGENCIES

EDUCATIONAL RESEARCH SERVICE OF AASA and the NEA Research Division. Washington, D.C. Monthly. $80.00

A ready source of current information and research in school administration. Subscriber receives a large number of timely research reports and professional publications. Annual subject index to material sent to subscriber each year.

EDUCATIONAL TESTING SERVICE. Princeton, N.J.

ETS is a nonprofit educational organization working primarily through measurement and research. The activities of ETS fall into four principal categories: the construction of tests and the administration of tests and measurement programs; research in education, measurement, and psychology; the assessment and evaluation of educational projects and systems; and instructional and advisory activities.

INSTITUTE FOR DEVELOPMENT OF EDUCATIONAL ACTIVITIES, INC., an affiliate of the Charles F. Kettering Foundation. Melbourne, Fla. Varies.

I/D/E/A is a nonprofit educational corporation engaged in research, development and services. Its publications and films report results of Institute program efforts and analyze critical issues in American education. A variety of publications is available from the Institute. These include monographs, bibliographies, and special reports.

SCHOOL RESEARCH INFORMATION SERVICE, Phi Delta Kappa, Inc. Bloomington, Indiana. Quarterly. $3.00.

SRIS is primarily concerned with the dissemination of reports of research and innovation as developed by educators.

GOVERNMENT REPORTS

GOVERNMENT REPORTS ANNOUNCEMENTS. Springfield, Virginia: National Technical Information Service. Semi-monthly. $30.00 annually.

A semi-monthly abstract journal for science and industry. Annual subject and author cumulated indexes.

Previous title: U.S. GOVERNMENT RESEARCH AND DEVELOPMENT REPORTS.

GUIDE TO FEDERAL ASSISTANCE FOR EDUCATION. New York, N.Y. Published monthly. Annually $225.00.

This series of folders provides information on how to procure Federal assistance for education. In addition the Guide provides an alphabetical index, an index of Federal laws, organization charts of Federal agencies and Federal deadlines for application.

MONTHLY CATALOG OF U.S. GOVERNMENT PUBLICATIONS. U.S. Superintendent of Documents. Washington, D.C., 1895 - . Monthly. $7.00.

A current bibliography of publications issued by all branches of the government. Arranged by the department and bureau issuing the publication and includes the full title, date, paging and price. Each issue includes a subject/title index with an annual cumulation.

SPECIAL COLLECTIONS

ALERT. Berkeley, California. Far West Laboratory for Educational Research and Development, 1970.

A ready reference collection of sort cards representing curriculum programs, organizational arrangements or other programs relevant to schools' needs. This index is limited to the best several hundred new programs and projects developed around the country.

Accessibility information is available from producer.

CANADIAN TEACHERS' FEDERATION. Ottawa, Ontario, Canada, 1969-

Publisher series. BIBLIOGRAPHIES IN EDUCATION. These bibliographies cover a variety of current educational topics ranging from School Dropouts to Open Area School.

CROFTS EDUCATIONAL SERVICES. New London, Conn. Price varies according to service.

A source of current information and professional assistance in the field of education and education management. Subscriber may choose from a selection of over 15 periodicals those which best fit his needs. Annual subject index is sent to subscriber each year.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION. Chicago, Illinois, University of Chicago Press. Yearbook, 1902 - . Annually. $5.00.

These yearbooks cover a variety of educational topics ranging from art education to tests and measurement, and child psychology. These publications advance scholarship in the field and provide direct assistance to educators seeking to provide a relevant quality of education.

ONTARIO INSTITUTE FOR STUDIES IN EDUCATION. Toronto, Ontario, Canada.

A college established for the purpose of studying matters and problems relating to education; of disseminating the results of and assisting in the implementation of the findings of educational studies; and to expand graduate instruction in education.

Current topics in education are covered by their many publications which include INTERCHANGE, a journal of educational studies and ORBIT, a journal for ideas about teaching and learning.

PUBLICATIONS OF THE WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR COGNITIVE LEARNING. Madison, Wisconsin: The University of Wisconsin, The Center, 1966 - Price varies.

A series of technical reports and practical papers focusing on improved efficiency of learning by children, youth and adults. The reports are based on six main groups of variables: the characteristics and behaviors of the learners, conditions of learning, characteristics and behaviors of the teacher, subject matter, instructional materials and media, and forces outside the classroom.

REPORT SERIES OF THE RESEARCH AND DEVELOPMENT CENTER FOR TEACHER EDUCATION. Austin, Texas: University of Texas at Austin, 1969 - . Varies.

Reports of research conducted at the research and development center on various topics in teacher education. Most of the reports have appeared as journal articles.

HUMAN RESOURCES

HUMAN RESOURCE

Special form to be filled out by person to be kept for future reference.
Information on form would include:

Major Specialization
Name
Business Address Home Address Phone
Type of Program, Presentation or Talk
Key Features of Background
Best Suited for
Recommended by Date

APPENDICIES

APPENDIX A

SOURCE JOURNAL INDEX

For information concerning the journals listed below consult *Ulrich's International Periodicals Directory*, 13th Edition (New York: R. R. Bowker Company, 1969) or contact Editor, *Current Index to Journals in Education*, CCM Information Corporation, 866 Third Avenue, New York, N. Y. 10022.

*AAUP Bulletin
Academic Therapy Quarterly
Administrative Science Quarterly
*Administrator's Notebook
Adolescence
*Adult Education
*Adult Education (London)
Adult Education in Finland
Adult Jewish Education
Adult Leadership
*AEDS Journal
*Agricultural Education Magazine
AIA Journal
*Alberta Journal of Educational Research
*American Annals of the Deaf
*American Association of Colleges for Teacher Education Yearbook
American Bar Association Journal
American Behavioral Scientist
*American Biology Teacher
*American Council on Industrial Arts Teacher Education Yearbook
American Economic Review
*American Education
American Educational Research Journal
American Foreign Language Teacher
American Indian Culture Center Journal
American Institute of Landscape Architects Journal
American Journal of Building Design
*American Journal of Mental Deficiency
American Journal of Occupational Therapy
American Journal of Orthopsychiatry
American Journal of Physics
American Journal of Psychology
American Journal of Sociology
American Libraries
American Scholar
*American School Board Journal
American School and University
American Speech
*American Vocational Journal
Annual Review of Psychology
Appalachia
Appalachian Advance
Architectural Design
Architectural Forum
Architectural Record
Architectural Review
*Arithmetic Teacher

*Art Education
Arts in Society
*ASCD Yearbook
ASPBAE Journal
Association for Teacher Educators Yearbook
*Audiovisual Instruction
*Audio Visual Language Journal
Audiovisual Media
AUEC Newsletter
*Australian Journal of Adult Education
Australian Journal of Education
Australian Journal of Mental Retardation
Australian Science Teachers Journal
*AV Communication Review
AZTLAN–Chicano Journal of the Social Sciences and the Arts

Babel
*BACIE Journal
Balance Sheet
Behavior Therapy
Behavioral Science
Bell Journal of Economics and Management
Biology and Human Affairs
BioScience
Black Scholar
Black World
Boletín de la Real Academia española
British Journal of Disorders of Communication
*British Journal of Educational Psychology
*British Journal of Educational Studies
British Journal of Psychology
Build International
Building Design and Construction
Building Research
Bulletin of Hispanic Studies
Bulletin of the Association of the Departments of English
Bulletin of the Association of Departments of Foreign Languages
Bulletin of the Atomic Scientists
*Business Education Forum

California Journal of Educational Research
California Management Review
*California Personnel Guidance Association Journal
Canada's Mental Health
Canadian Counselor
Canadian Modern Language Review
Canadian Training Methods
Canadian Vocational Journal
Catholic Institutional Management
Catholic Library World
Catholic School Journal
CEFP Journal
Change
Changing Education
*Child Development
Child Study Journal
Child Welfare
*Childhood Education
*Children
Chinese Education
Civil Rights Digest
*Claremont College Reading Conference Yearbook
Classical Bulletin
Classical Journal
Classical Outlook
Classical World
*Classroom Interaction Newsletter
*Clearing House
*College Board Review
*College Composition and Communication
College of Education Record (University of North Dakota)
College of Education Record (University of Washington)
*College English
College Management
College and Research Libraries
College Student Survey
*College and University
*College and University Business
College and University Journal
Colorado Journal of Educational Research
Community Development Journal
Community Education Journal
Community Mental Health Journal
*Compact
*Comparative Education
*Comparative Education Review
*Conference and Course on Reading, University of Pittsburgh
Conservationist
Consulting Engineer
Contact
Contemporary Education
Contemporary Indian Affairs–A Journal of the Modern American Indian
Contemporary Psychology

*Journals indexed cover to cover

Continuing Education
Continuing Education for Adults
Continuing Education Report from the University of Chicago
**Continuous Learning*
**Convergence*
Council of Europe Information Bulletin
Council of Europe Newsletter
Counseling Psychologist
**Counselor Education and Supervision*
Cuadernos Americanos
Cuadernos Hispanoamericanos
Curriculum Theory Network

Daedalus
Datamation
Delta Kappa Gamma Bulletin
Delta Pi Epsilon Journal
Design Course
Deutsch als Fremdsprache
Deutschunterricht
Developmental Psychology
Didaskalos
Drexel Library Quarterly

EBTA Journal
EBU Review
Economic Journal
**Education*
**Education Canada*
Education in Chemistry
Education Digest
Education and Training
Education and Training of the Mentally Retarded
**Education and Urban Society*
**Education of the Visually Handicapped*
**Educational Administration Quarterly*
**Educational Broadcasting Review*
**Educational Forum*
**Educational Horizons*
Educational Instructional Broadcasting
**Educational Leadership*
Educational Perspectives
**Educational Product Report*
**Educational and Psychological Measurement*
**Educational Record*
**Educational Research*
Educational Resources and Techniques
**Educational Review*
**Educational Screen and Audiovisual Guide*
Educational Sciences–An International Journal
**Educational Studies in Mathematics*
**Educational Technology*
Educational Television
Educational Television International
Educational Theatre Journal
**Educational Theory*
**Elementary English*
**Elementary School Guidance and Counseling*
Elementary School Journal
English
English in Australia
English Education
English in Education
**English Journal*
**English Language Teaching*
English Quarterly
Environment and Behavior
Environment Monthly
Environmental Design
ETC: A Review of General Semantics
Ethical Education
**Exceptional Children*
Extension Service Review

Facility: Journal of the Professional Counselors Association
Family Coordinator
Florida Adult Educator
Florida FL Reporter
**Florida Reading Quarterly*
**Foreign Language Annals*
Français dans le Monde
Freedomways
Fremdsprachliche Unterricht
**French Review*
Futurist

Geotimes
**German Quarterly*
**Gifted Child Quarterly*
**Grade Teacher*
Graduate Journal
**Greece and Rome*
Grito, A Journal of Contemporary Mexican-American Thought

Harvard Business Review
**Harvard Educational Review*
Hearing and Speech News
Heating, Piping and Air Conditioning
**High School Journal*
**Hispania*
Hispanic Review
**History of Education Quarterly*
**History Teacher*
Home Study
Human Development
Human Organization
Human Potential
Human Relations Training News

IAR Research Bulletin
**Illinois School Research*
Illinois Teacher for Contemporary Roles
ILO Panorama
Impact of Science on Society
**Improving College and University Training*
**Independent School Bulletin*
Indian Historian
Indian Journal of Adult Education
Industrial Arts and Vocational Education
Industrial Training International
Inequality in Education
**Instructional Science*
Instructor
Instructor Development
**Integrated Education*
Interchange: A Journal of Educational Studies
Interface
International Educational and Cultural Exchange
International Journal of American Linguistics
**International Journal of Early Childhood*
International Journal of Mathematical Education in Science and Technology
**International Review of Community Development*
**International Review of Education*
**IRAL–International Review of Applied Linguistics in Language Teaching*
International School Building News
**Italica*

Journal for Research in Mathematics Education
Journal of Abnormal Psychology
**Journal of Aesthetic Education*
Journal of the American Academy of Child Psychiatry
Journal of the American College Health Association
Journal of American Indian Education
**Journal of the American Institute of Planners*
Journal of the American Society for Information Science
Journal of Applied Behavioral Science
Journal of Applied Psychology
**Journal of Autism and Childhood Schizophrenia*
Journal of Biological Education
Journal of Black Studies
Journal of Broadcasting
**Journal of Business Education*
Journal of Chemical Education
Journal of Child Psychology and Psychiatry and Allied Disciplines
Journal of the Chinese Language Teachers Association
Journal of Clinical Psychology
Journal of College Placement
**Journal of College Student Personnel*
Journal of Communication
Journal of the Community Development Society
Journal of Consulting and Clinical Psychology
Journal of Continuing Education in Nursing
Journal of the Council of Associations of University Student Personnel Services
**Journal of Counseling Psychology*
**Journal of Creative Behavior*
Journal of Cross-Cultural Psychology
**Journal of Curriculum Studies*
**Journal of Economic Education*
**Journal of Education*
Journal of Education for Librarianship
**Journal of Educational Administration*
**Journal of Educational Data Processing*
**Journal of Educational Measurement*
**Journal of Educational Psychology*
**Journal of Educational Research*

Journal of Educational Technology
Journal of Educational Thought
**Journal of Employment Counseling*
Journal of Engineering Education
Journal of Environmental Education
Journal of Experimental Child Psychology
**Journal of Experimental Education*
Journal of Experimental Psychology
Journal of Experimental Research in Personality
Journal of Experimental Social Psychology
Journal of Extension
Journal of Family Law
Journal of Finance
**Journal of General Education*
Journal of Genetic Psychology
Journal of Geography
Journal of Geological Education
**Journal of Health, Physical Education and Recreation*
**Journal of Higher Education*
Journal of Home Economics
Journal of Humanistic Psychology
**Journal of Human Resources*
**Journal of Industrial Teacher Education*
**Journal of the International Association of Pupil Personnel Workers*
**Journal of the International Congress of University Adult Education*
**Journal of Learning Disabilities*
**Journal of Legal Education*
Journal of Leisure Research
Journal of Library Automation
Journal of Management Studies
Journal of Marriage and the Family
**Journal of Medical Education*
Journal of Mexican American History
**Journal of the National Association of College Admissions Counselors*
**Journal of the National Association of Women Deans and Counselors*
**Journal of Negro Education*
Journal of Nervous and Mental Disease
Journal-Newsletter of the Association of Teachers of Japanese
**Journal of Outdoor Education*
Journal of Personality and Social Psychology
Journal of Psychology
Journal of Public Law
Journal of Reading
**Journal of Reading Behavior*
**Journal of the Reading Specialist*
Journal of the Rehabilitation of the Deaf
**Journal of Research and Development in Education*
Journal of Research in Music Education
**Journal of Research in Science Teaching*
Journal of School Health
**Journal of School Psychology*
**Journal of Secondary Education*
Journal of Sex Research
Journal of Social Issues
Journal of Social Psychology
**Journal of Special Education*
**Journal of Speech and Hearing Disorders*
Journal of Speech and Hearing Research
Journal of the Student Personnel Association for Teacher Education
**Journal of Teacher Education*
Journal of Typographic Research
See *Visual Language*
Journal of Urban Law
Journal of Verbal Learning and Verbal Behavior
Journal of Vocational Behavior
**Junior College Journal*

Kappa Delta Pi Record

Labor Law Journal
Labour Education
**Language Learning*
Language Sciences
Language and Speech
Langues Modernes
Law and Society Review
**Liberal Education*
Library Association Record
Library College Journal
**Library Journal*
Library Quarterly
Library Resources and Technical Services
Library Trends
Linguistic Reporter
Literacy Discussion

Man-Environment Systems
Man/Society/Technology–A Journal of Industrial Arts Education
Management Science
Manpower
Marquette University Education Review
Mathematical Gazette
Mathematical Spectrum
**Mathematics Teacher*
Mathematics Teaching
Measurement and Evaluation in Guidance
Media and Methods–Exploration in Education
Medical Aspects of Human Sexuality
Mental Hygiene
**Mental Retardation*
**Merrill-Palmer Quarterly of Behavior and Development*
Minerva
**Minnesota Reading Quarterly*
**Modern Language Journal*
Modern Languages
Modern Schools
Momentum
Monday Morning
**Monographs of the Society for Research in Child Development*
MST English Quarterly
Multivariate Behavioral Research
**Music Educators Journal*

NALLD Journal
NASPA Journal
**NASSP Bulletin*
**National Business Education Association Yearbook*
National Business Education Quarterly
National Catholic Guidance Conference Journal
**National Council for the Social Studies Yearbook*
**National Council of Teachers of Mathematics Yearbook*
**National Elementary Principal*
National Society for the Study of Education Yearbook
National Tax Journal
**Nation's Schools*
**NEA Research Bulletin*
Negro American Literature Forum
Neueren Sprachen
New Campus
**New England Reading Association Journal*
New Generation
**New Outlook for the Blind*
New School of Education Journal
New South
New University
New Voices in Education
New York Review of Books
**New York Society for the Experimental Study of Education Yearbook*
Newsletter (Asian Institute for Teacher Educators)
NJEA Review
NOLPE School Law Journal
**North Central Association Quarterly*
Northian
Notes on the Future of Education
Notes and Studies
Notre Dame Journal of Education
**NSPI Journal*
NUEA Spectator

Occupational Outlook Quarterly
**Open Door*
Orbit

**Paedagogica Europea*
Parks and Recreation
**Peabody Journal of Education*
Pedagogie
**Pedagogica Historica*
Pediatrics
Perceptual and Motor Skills
**Personnel and Guidance Journal*
Personnel Journal
Personnel Psychology
**Phi Delta Kappan*
Phoenix
Phylon
Physics Education
**Physics Teacher*
Physics Today
Pine Ridge Research Bulletin
Planning and Changing–A Journal for School Administrators
Praxis des neusprachlichen Unterrichts
Professional Psychology Journal
**Programmed Learning and Educational Technology*
Progressive Architecture
Psychological Bulletin

Psychological Reports
Psychological Review
**Psychology in the Schools*
**Psychometrika*
Public Administration Review
Public Interest
Public Opinion Quarterly
Publications of the Modern Language Association

Quarterly Journal of Speech

**Reading*
**Reading Horizons*
**Reading Improvement*
**Reading Research Quarterly*
**Reading Teacher*
Record see Teachers College Record
Rehabilitation Counseling Bulletin
Rehabilitation Literature
Research Journal (University of Maryland)
**Research Quarterly of the AAHPER*
**Research in the Teaching of English*
**Review of Educational Research*
Revista de filología española
Revista Iberoamericana
Revista de Occidente
Revue des Langues Vivantes
RQ
Rural Sociology
Russian Language Journal

Saskatchewan Journal of Educational Research and Development
Saturday Review
Schizophrenia
**School Arts Magazine*
**School Counselor*
**School Libraries*
**School Library Journal*
**School Management*
School Progress
**School Review*
**School Science and Mathematics*
School Shop
**School and Society*
Science
**Science and Children*
**Science Education*
**Science Teacher*
Scientia Paedagogica Experimentalis
Sexual Behavior
Sight Saving Review
Simulation and Games
Slavic and East European Journal
Slavonic and East European Review
Slow Learning Child
**Social Education*
Social Forces
Social Policy
Social Problems
Social Science Quarterly
Social Science Record
**Social Studies*
Social Work
Society of Public Teachers of Law
**Sociology of Education*
Sociology and Social Research
Soviet Education
Spain Today
Special Education
Special Education in Canada
Special Libraries
Speech Monographs
**Speech Teacher*
Studies in Adult Education
**Studies in Art Education*
Studies in English Literature
Supervisors Quarterly

Teacher Education in New Countries
Teacher Education News and Notes
**Teachers College Record*
Teaching
**Teaching Exceptional Children*
**Technical Education News*
**TESOL Quarterly*
**Theory into Practice*
Times (London) Educational Supplement
**Today's Education*
Top of the News
Training in Business and Industry
**Training and Development Journal*
Training Officer
Training for Progress
**Training School Bulletin*
**Training and Technology*
Transaction
Trends in Teacher Education
Two-Year College Mathematics Journal

Unesco Bulletin for Libraries
Universities Quarterly, Higher Education and Society
University of Toronto Quarterly
Unterrichtspraxis
Updating School Board Policies
**Urban Education*
Use of English

Viewpoints
Visible Language
Visual Education
**Vocational Guidance Quarterly*
**Volta Review*

Western European Education
**Wilson Library Bulletin*
Women—A Journal of Liberation
**World Yearbook of Education*

Yearbook of School Law
**Young Children*

Zielsprache Deutsche

APPENDIX B

EDRS ORDERING INFORMATION

ERIC Document Reproduction Service (EDRS) prices of hardcopy and microfiche are listed below.

MICROFICHE DUPLICATES

Request by Title, each title	– $0.65
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Special Collections, each fiche	– $0.140
Back Collections, each fiche	– $0.089

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Pages 1 – 100 – $ 3.29

Pages 101 – 200 – $ 6.58

Pages 201 – 300 – $ 9.87

Pages 301 – 400 – $13.16

Pages 401 – 500 – $16.45

Each additional
1 – 100 page
increment – $3.29

Book Rate or Library Rate postage is included in the above prices. The difference between Book Rate or Library Rate and first class or foreign postage (outside the continental United States) rate will be billed at cost. There will be no handling charges. All orders must be in writing and payment must accompany orders under $10.00.

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P. O. Drawer 0
Bethesda, Maryland 20014

APPENDIX C

ERIC CLEARING HOUSES: SCOPES AND CODES

AC ADULT EDUCATION, Syracuse University, 107 Roney Lane, Syracuse, New York 13210

ERIC/AE is responsible for research and other documents on formal and informal adult and continuing education in all settings.

CG COUNSELING AND PERSONNEL SERVICES, University of Michigan, 611 Church Street, Ann Arbor, Michigan 48104

ERIC/CAPS focuses on information relevant to personnel work at all levels and in all settings, including college student personnel work research. Under its scope are materials on pupil, student, and adult characteristics, educational, and community settings, and the types of assistance provided by personnel workers.

UD DISADVANTAGED, Teachers College, Box 40, Columbia University, New York, N.Y. 10027

ERIC/IRCD is responsible for research reports and other documents on the educational, psychological, social, and general development of urban children and youth who are socially or economically disadvantaged.

PS EARLY CHILDHOOD EDUCATION, University of Illinois, 805 West Pennsylvania Avenue, Urbana, Illinois 61801

ERIC/ECE oversees research documents on the physiological, psychological, and cultural development of children from birth through the primary grades, with major focus on educational theory, research, and practice related to the development of young children.

EA EDUCATIONAL MANAGEMENT, University of Oregon, 320 Henricks Hall, Eugene, Oregon 97403

ERIC/CEA's subject area is the administration of educational organizations on the elementary and secondary levels, including educational facilities.

EM EDUCATIONAL MEDIA AND TECHNOLOGY, Stanford University, Inst. for Communication Research, Stanford, California 94305

ERIC at Stanford is responsible for information on the application of new media and technological innovation to education, including such subjects as instructional television, computer-assisted instruction, and programmed learning.

EC EXCEPTIONAL CHILDREN, Council for Exceptional Children, 1411 South Jefferson Davis Highway, Suite 900, Arlington, Virginia 22202

ERIC/CEC acquires selected documents concerning children and youth who require special services. Included are the visually, aurally, and mentally handicapped, children emotionally disturbed and physically handicapped, children with learning disabilities and those with speech defects.

HE HIGHER EDUCATION, George Washington University, One Dupont Circle, Suite 630, Washington, D.C. 20006

ERIC/CHE is responsible for research documents on higher education, with the exception of reports on both teacher education and teaching of English in Higher Education.

JC JUNIOR COLLEGES, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, California 90024

The Clearinghouse for Junior Colleges monitors research documents about public and private community and junior colleges, including studies, staff, curricula, programs, libraries, and community services.

FL LANGUAGES AND LINGUISTICS, Modern Language Association of America (MLA) 62 Fifth Avenue, New York, N.Y. 10011

This clearinghouse follows research on linguistics and all related language sciences, the teaching of languages, the teaching of English as a foreign, second, or native language.

LI LIBRARY AND INFORMATION SCIENCES, American Society for Information Science, 1140 Connecticut Avenue, N.S. Suite 804, Washington, D.C. 20036

ERIC/CLISS is responsible for research documents on the operation of libraries and information centers, the technology used to improve their operations, and the education and training of library and information specialists.

CS READING AND COMMUNICATION SKILLS, National Council of Teachers of English, 508 South Sixth Street, Champaign, Illinois 61820.

This Clearinghouse is responsible for the collection and dissemination of information related to learning and instruction at all levels in the areas of reading, English, journalism, theatre, and speech communication. The focus will be on research reports and other documents relevant to all aspects of the teaching of English from kindergarten through college, with the preparation of teachers of English, and specialists in English Education. Aspects of speech communication to be covered include forensics, mass communication, interpersonal and small group interaction, oral interpretation, rhetorical and communications theory, speech sciences, and instructional developments in these areas.

RC RURAL EDUCATION AND SMALL SCHOOLS, New Mexico State University, Box 3 AP Las Cruces, New Mexico 88001

ERIC/CRESS is responsible for Information on organization, administration, curriculum, instruction, innovative programs, and other aspects of small school, rural education, outdoor education, migrant education, Indian education, and Mexican American education.

SE SCIENCE, MATHEMATICS, AND ENVIRONMENTAL EDUCATION, Ohio State University, 1460 West Lane Avenue, Columbus, Ohio 43221

ERIC/SMAC reads reports on all levels of science and mathematics education and on adult and continuing education in science and mathematics. Included are materials and programs related to environmental education.

SO SOCIAL STUDIES/SOCIAL SCIENCE, University of Colorado, 855 Broadway, Boulder, Colorado 80302

ERIC/CHESS is responsible for information on social studies, social science education, and social education.

SP TEACHER EDUCATION, American Association of Colleges for Teacher Education, One Dupont Circle, Suite 616, Washington, D. C. 20036

This Clearinghouse focuses on information about preservice and inservice preparation of teachers, supporting school personnel and teacher education.

TE TEACHING OF ENGLISH, National Council of Teachers of English, 508 South Sixth Street, Champaign, Illinois 61820

NCTE/ERIC is concerned with research reports and other documents relative to all aspects of the teaching of English from kintergarten through college, and the preparation of the teachers of English and of all specialists in English education.

TM TESTS, MEASUREMENTS, AND EVALUATION, Educational Testing Service, Rosedale Road, Princeton, New Jersey 08540

ERIC/TM is responsible for documents presenting descriptions of: 1) tests and other measurement devices; 2) evaluation procedures and techniques and 3) the application of tests, measurement, or evaluation in educational projects or programs.

VT VOCATIONAL AND TECHNICAL EDUCATION, Ohio State University, 1900 Kenny Road, Columbus, Ohio 43212

The Clearinghouse for vocational and technical education concentrates on research documents and related resources in this field, new sub-professional fields, and the related areas of industrial arts education, manpower economics, occupational sociology, and occupational psychology.

APPENDIX D

MANUAL FOR VISITORS

Steps in Searching RIE

"SAMPLE FORM"

First step – consult the ERIC thesarus

List the
Descriptors

UF – used for
RT – related terms
BT – board terms
NT – narrow terms

} use any or all to find materials

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Second step – consult the cumulative RIE (Research in Education) indexes using the descriptors from the thesarus

Year	ED numbers	Descriptors

Project RISE/rev. 1/72

Third step – consult 1971 RIE monthly catalogs

Month	ED numbers	Descriptors

Fourth step – Check ED numbers in monthly catalogs (except 1970) for abstracts. Here is your first opportunity to begin weeding out.

Fifth step – If you wish to read entire document, retrieve microfiche from file draws (microfiche numbers on drawer). Read and/or print material from microfiche on reader printers.

(additional instructions for fees can be added here)

MANUAL FOR VISITORS

Steps in Searching C.I.J.E.

"SAMPLE FORM"

First step – consult the ERIC Thesarus

List the Descriptors

UF – used for
RT – related terms
BT – broad term
NT – narrow term

} use any or all to find materials

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Second step – consult the C.I.J.E. cumulative indexes

Year	EJ numbers	Descriptors

Project RISE/rev. 1/72

Third step - Consult 1971 C.I.J.E. monthly catalogs

Month	EJ numbers	Descriptors

Fourth step – Check EJ numbers in monthly catalogs (except 1971) for citations and annotations. Note citations on paper.

Fifth step – Retrieve articles from journals in library.

(Instructions for fees can be added here)